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(54) **KITCHEN APPLIANCE WITH LOCKING HANDLES**

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A47J 36/10 (2006.01)
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B65F 1/16; B65F 1/1615; A47J 36/06; A47J 36/10; E05B 1/00; E05B 1/0015; E05B 1/003; E05B 1/0038; E05B 1/0053; E05B 3/00; E05B 2001/0023
USPC 220/212.5, 318, 573.1, 592.22, 752, 220/756, 762, 915.1, 915.2; 206/549; 16/111.1, 443
See application file for complete search history.

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Primary Examiner — Steven A. Reynolds

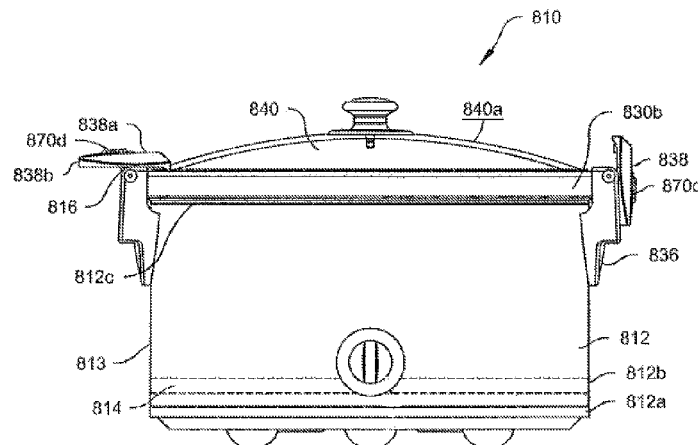
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(57) **ABSTRACT**

A kitchen appliance includes a housing that defines a cavity. A heating or cooling element is disposed within the housing to heat or cool the cavity. A container fits within the cavity. A lid at least partially covers the container when placed thereon. At least one handle assembly is engageable by a user for carrying the kitchen appliance, and includes a handle anchor positioned on the housing and a handle pivotably connected thereto. The handle is pivotable between an engaged position in which at least a portion of the handle contacts the lid to retain the lid in sealing engagement with the container rim, and a disengaged position in which the portion of the handle is spaced-apart from the lid to permit the lid to be removed from the container rim. The handle includes a locking mechanism for locking the handle in the engaged position.

19 Claims, 13 Drawing Sheets



- (51) **Int. Cl.**
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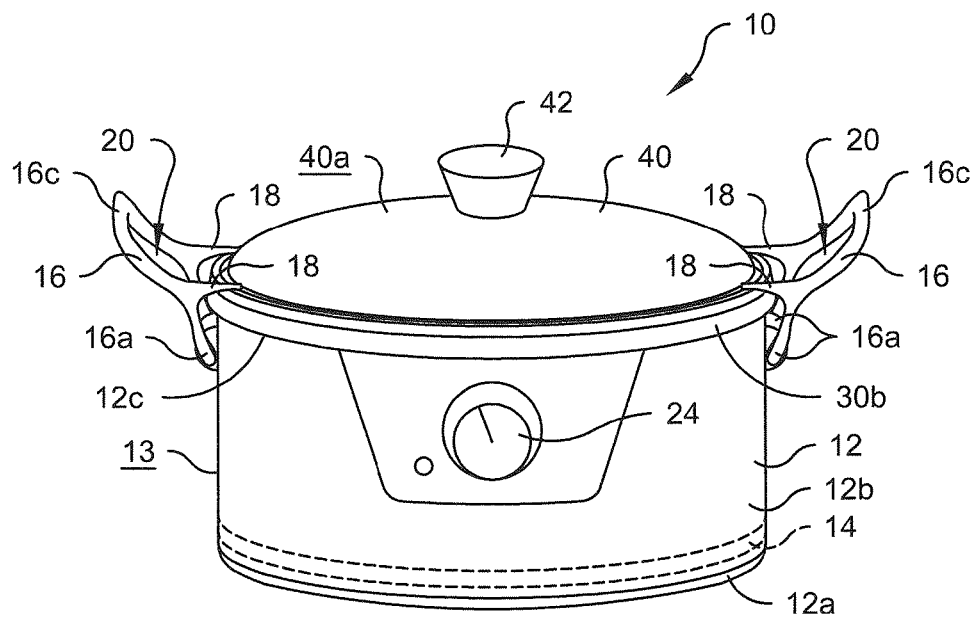


Fig. 1

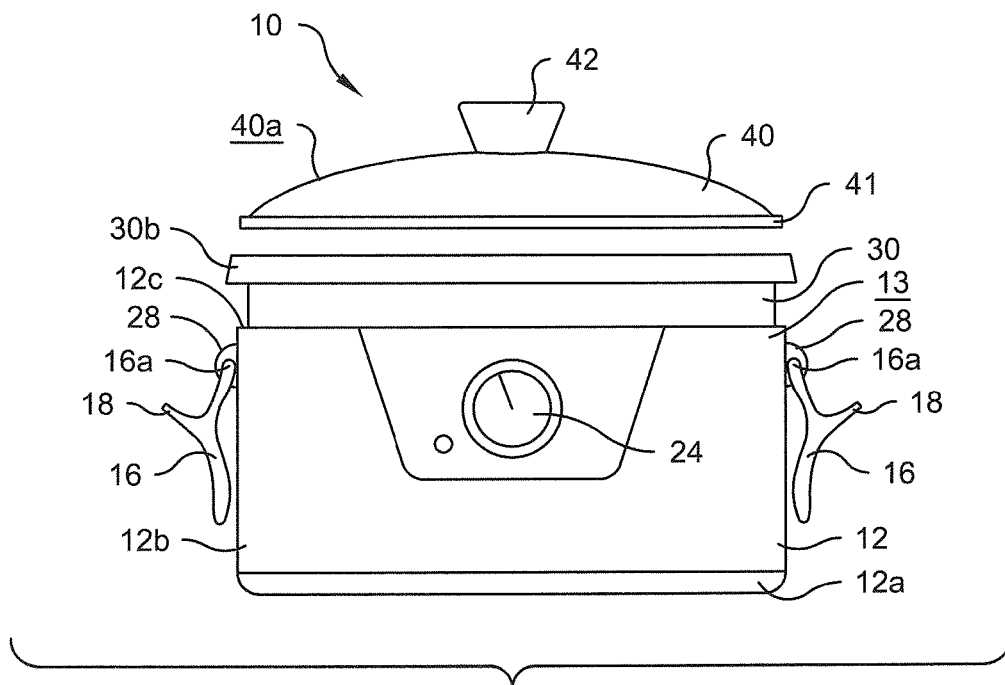


Fig. 2

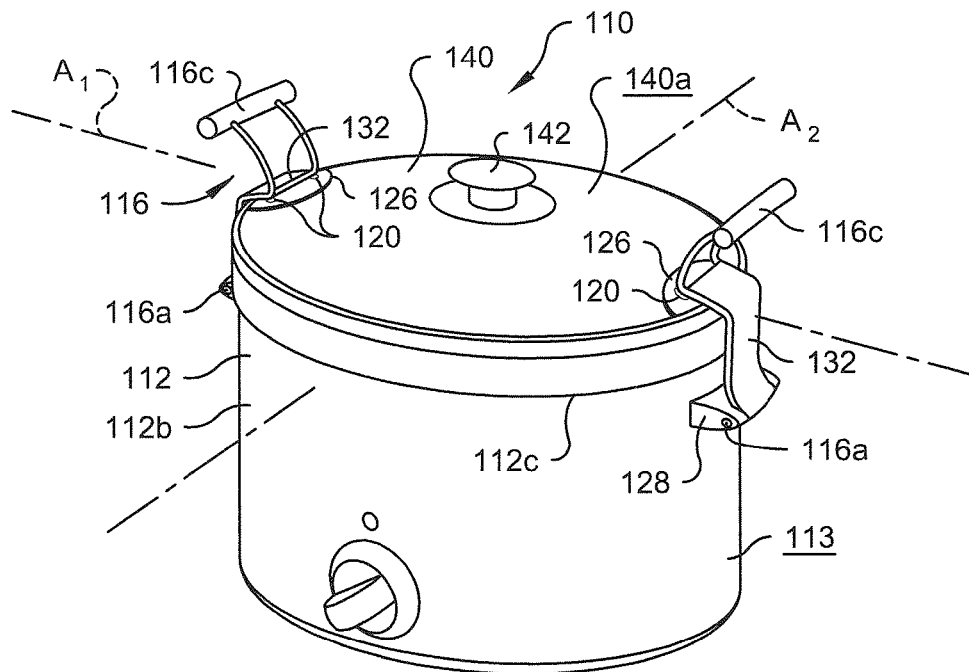


Fig. 3

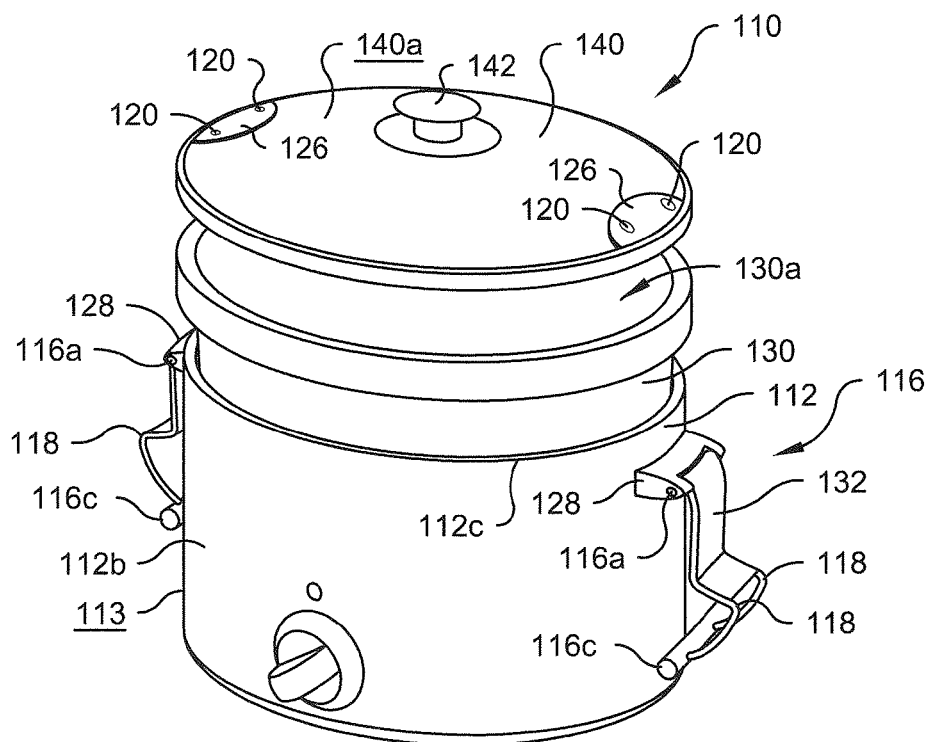


Fig. 4

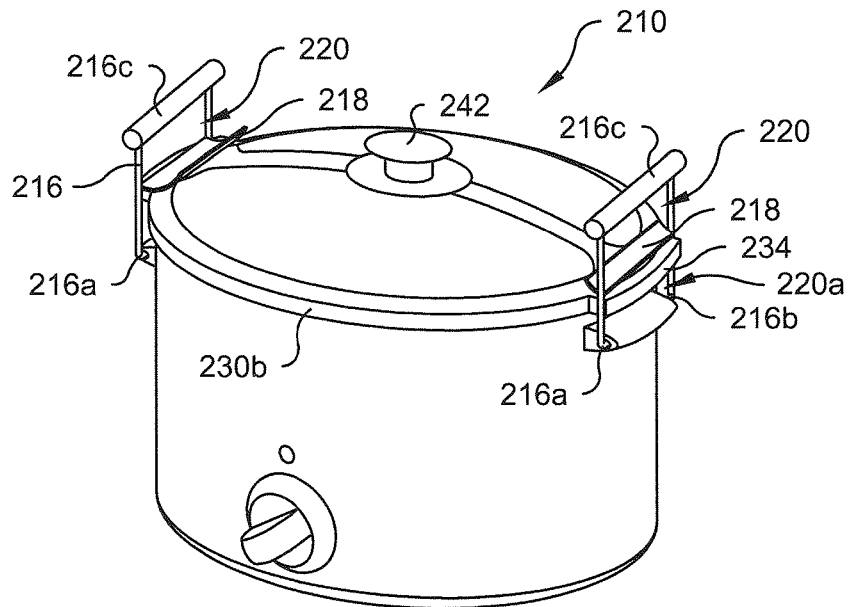


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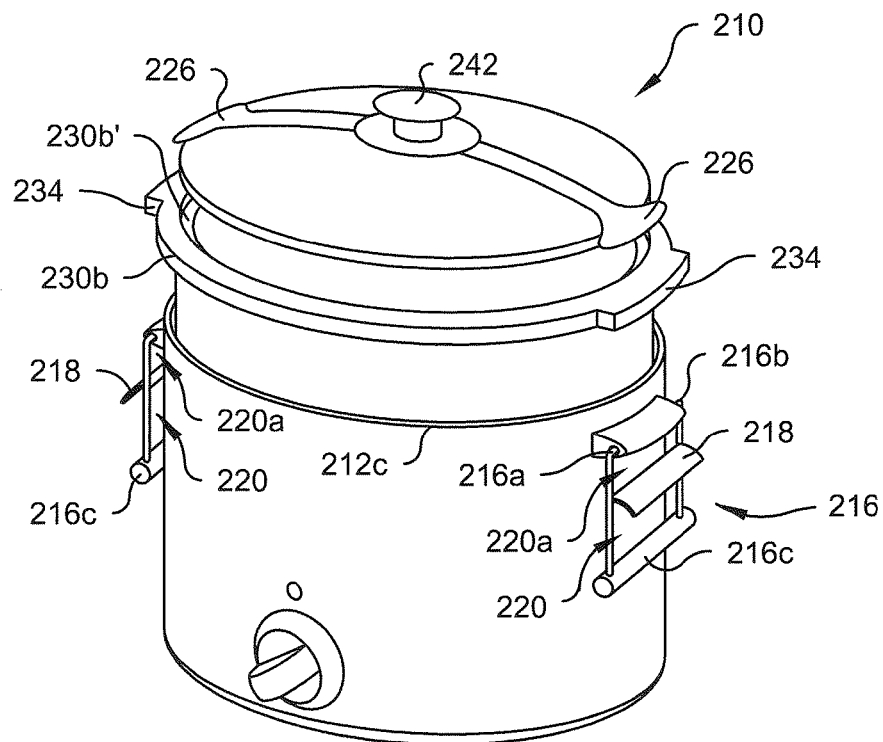


Fig. 6

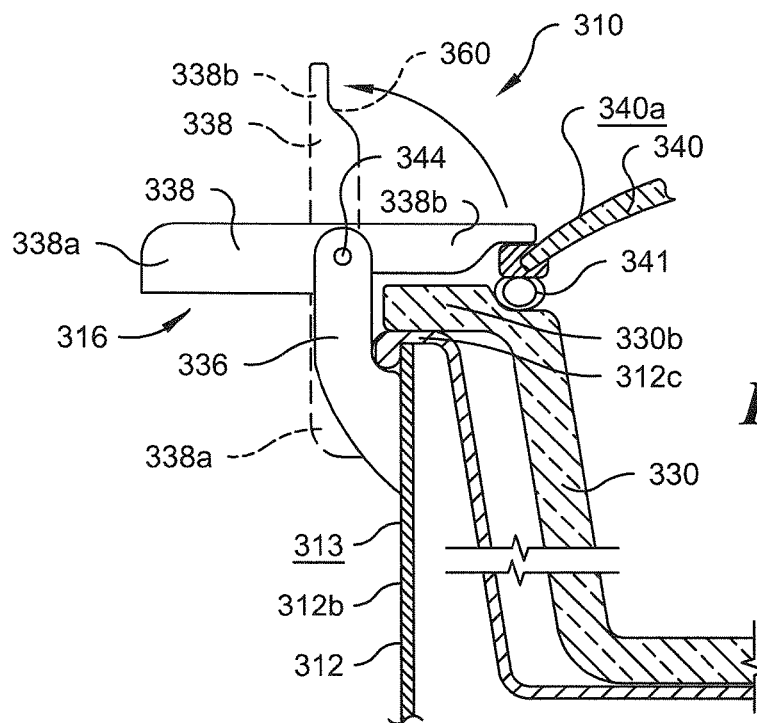


Fig. 7

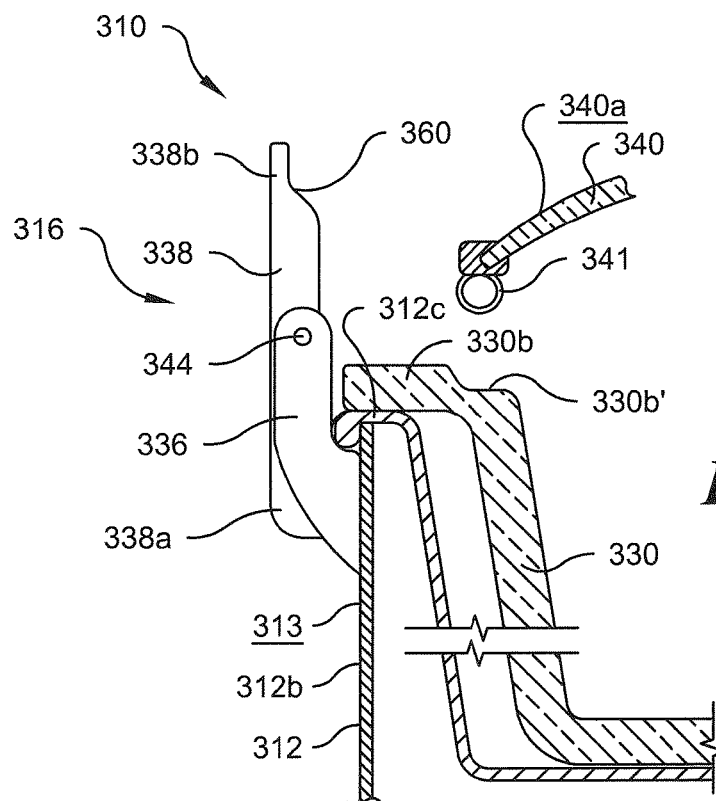


Fig. 8

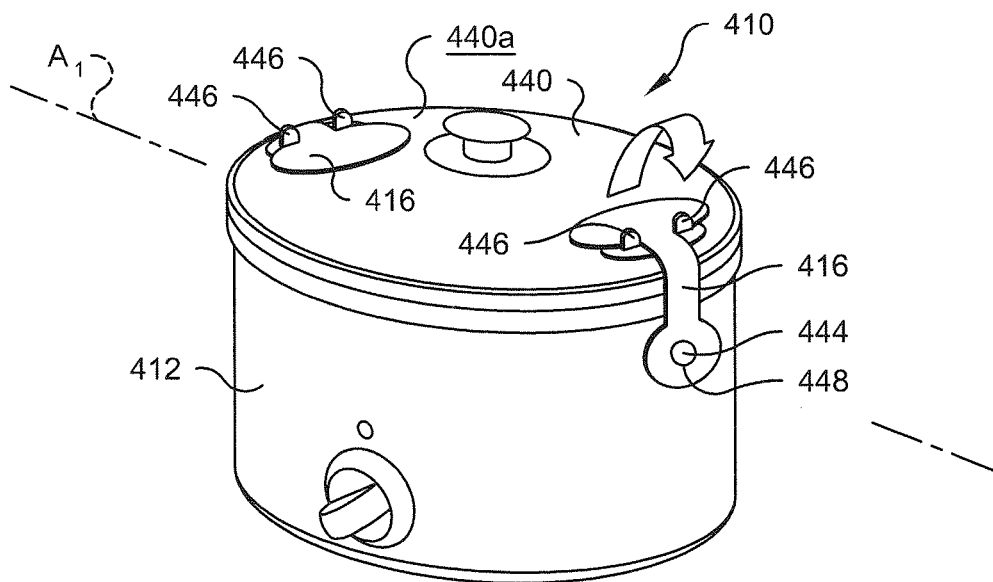


Fig. 9

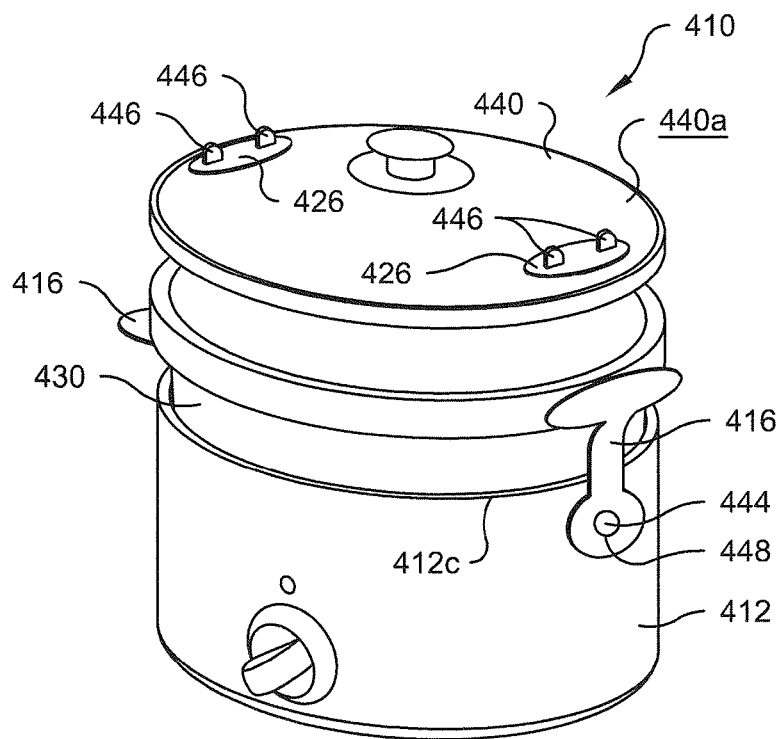


Fig. 10

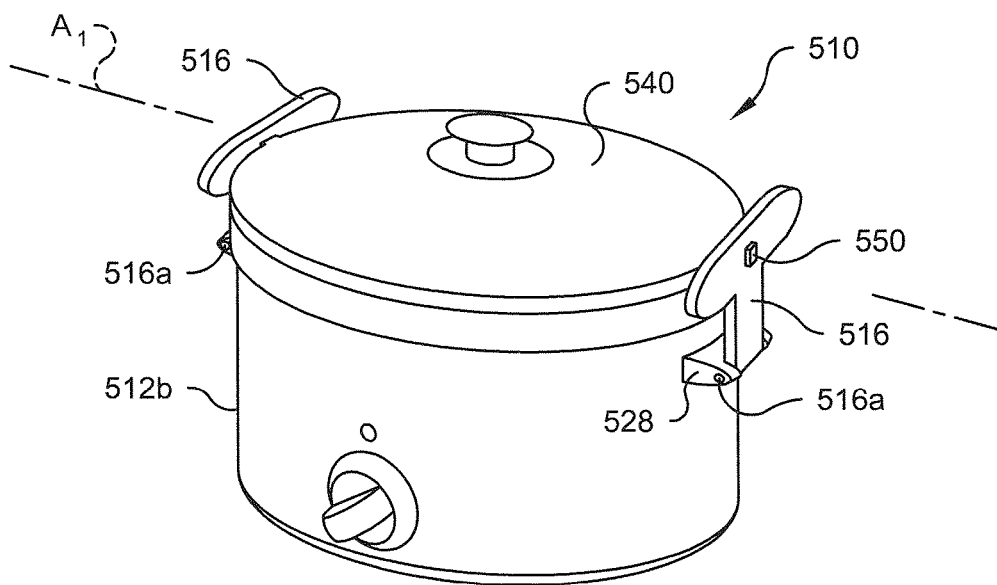


Fig. 11

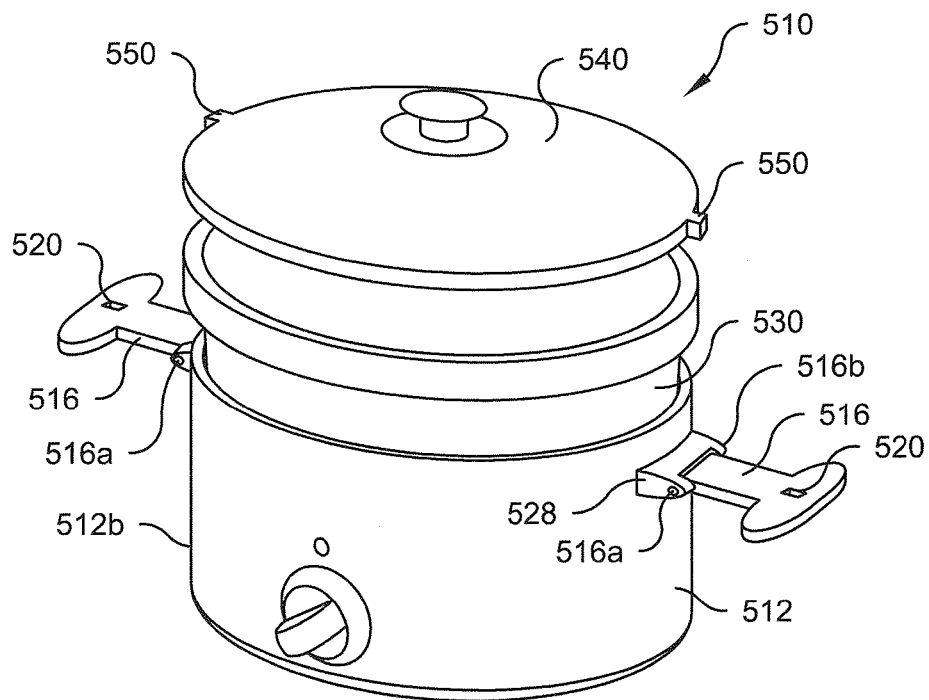


Fig. 12

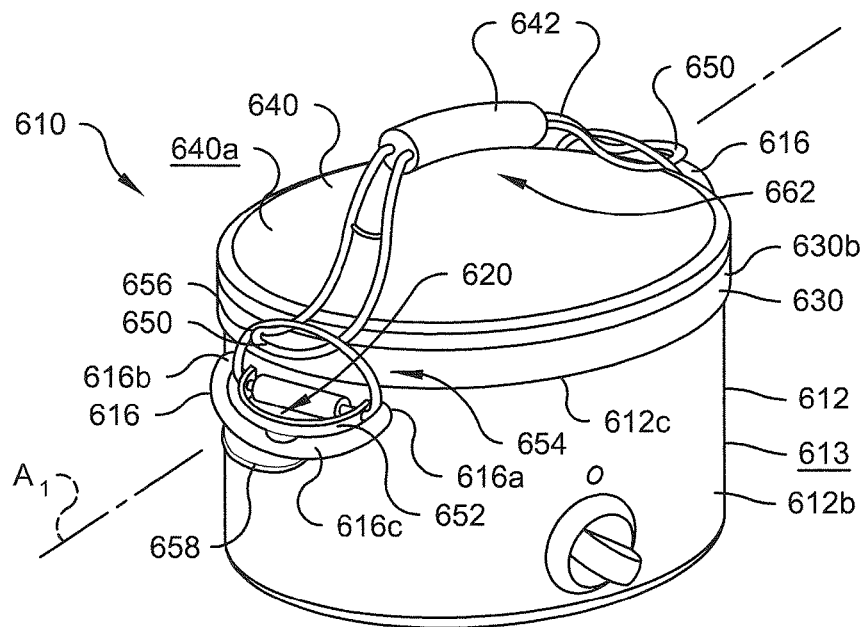


Fig. 13

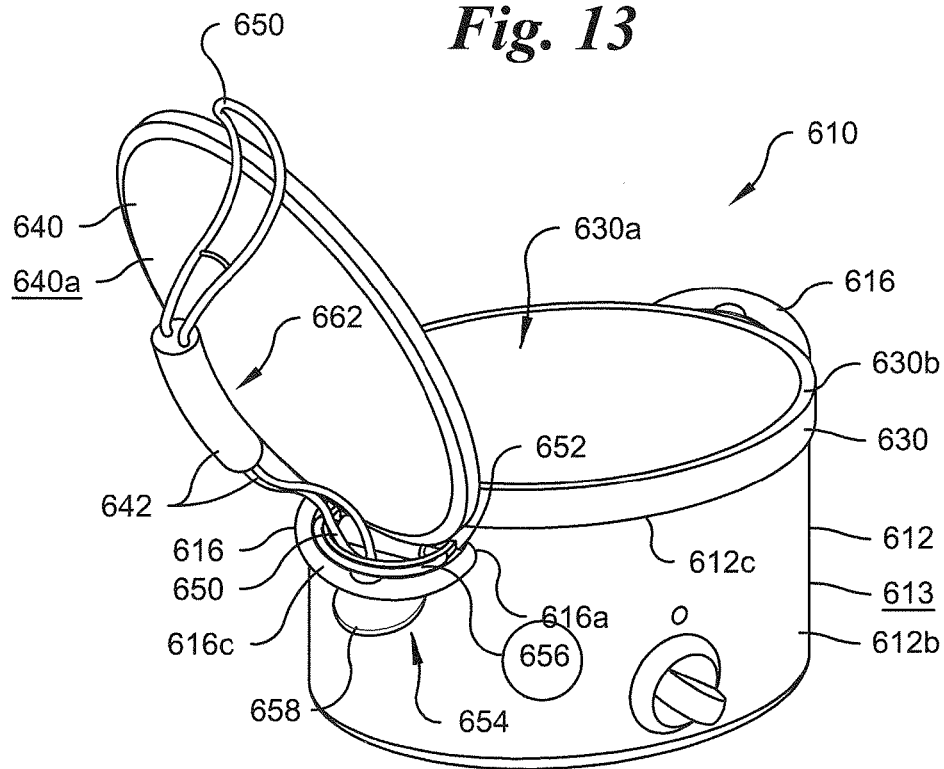


Fig. 14

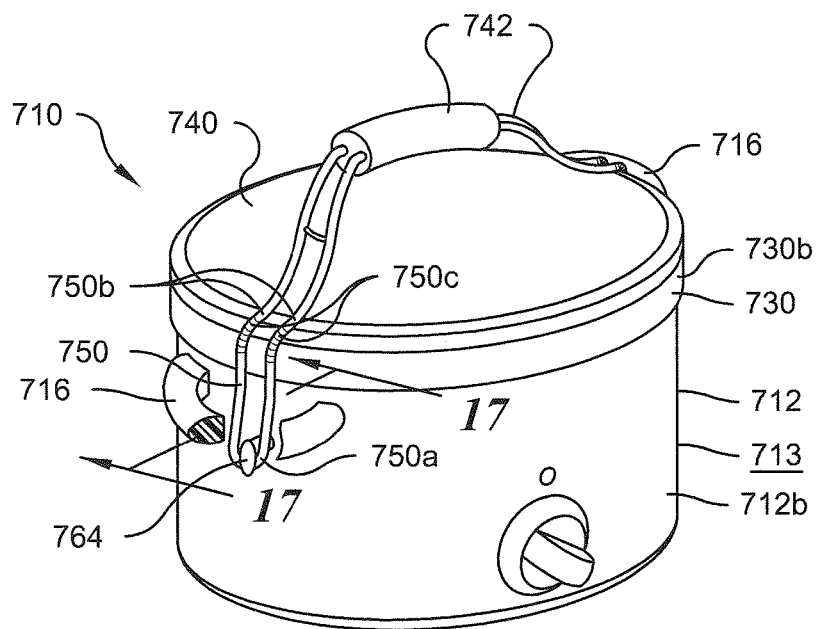


Fig. 15

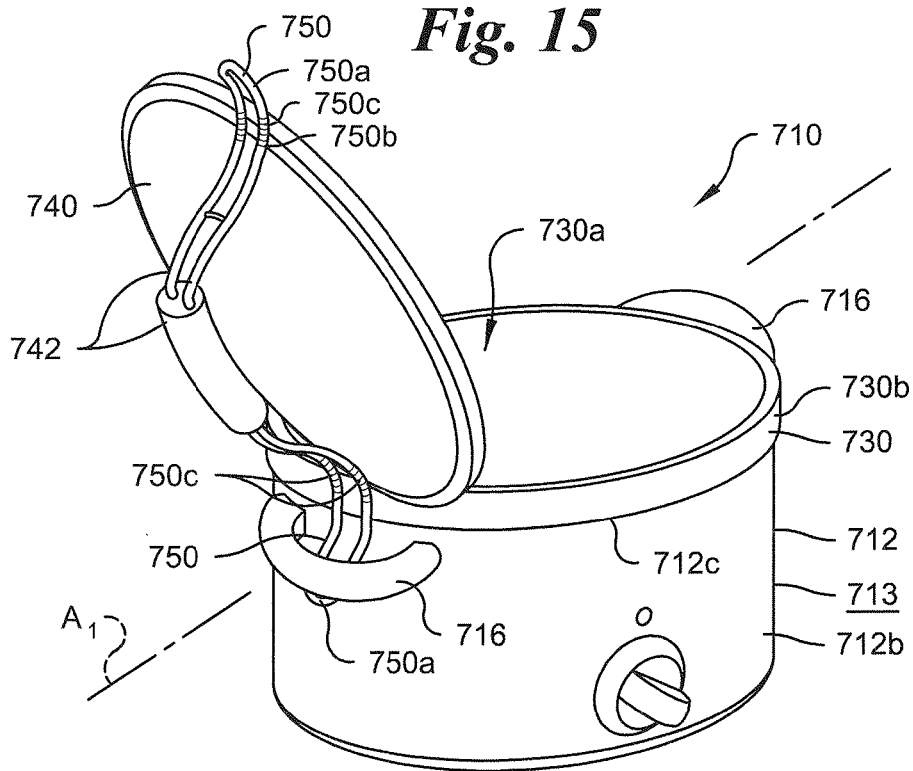
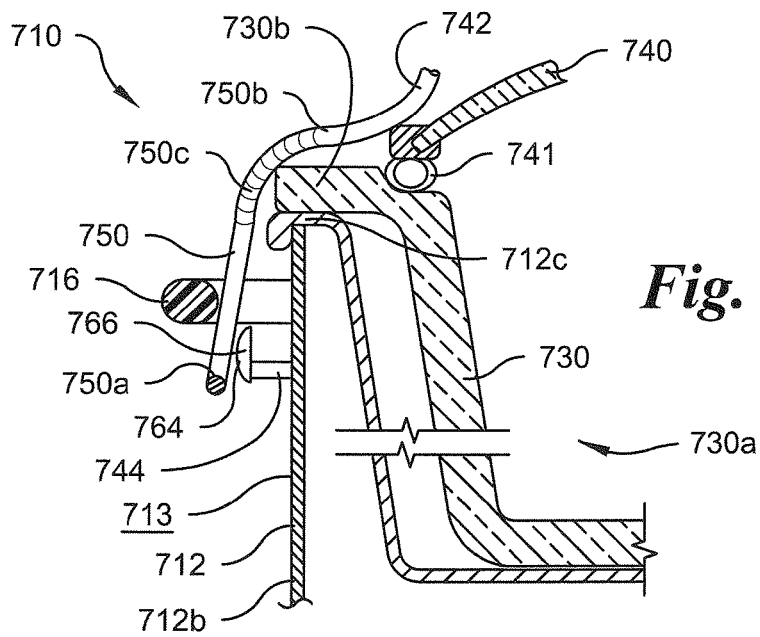
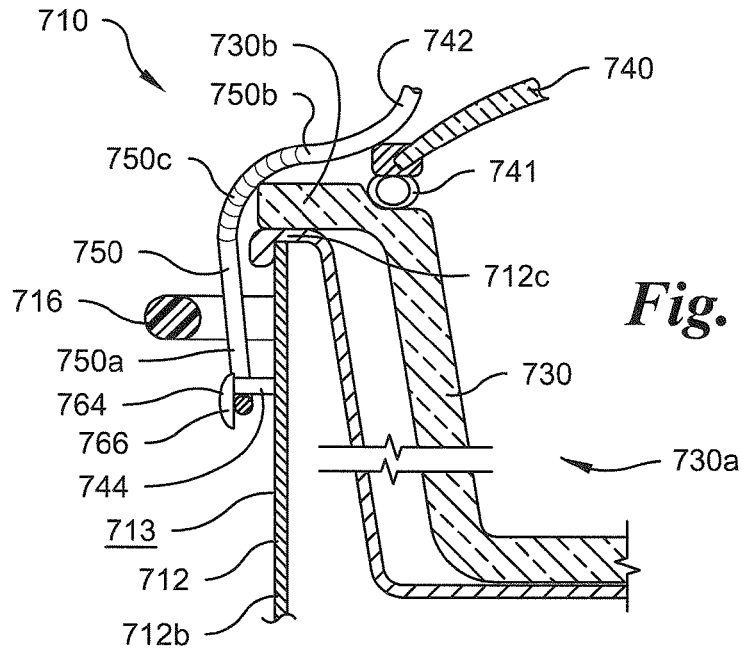


Fig. 16



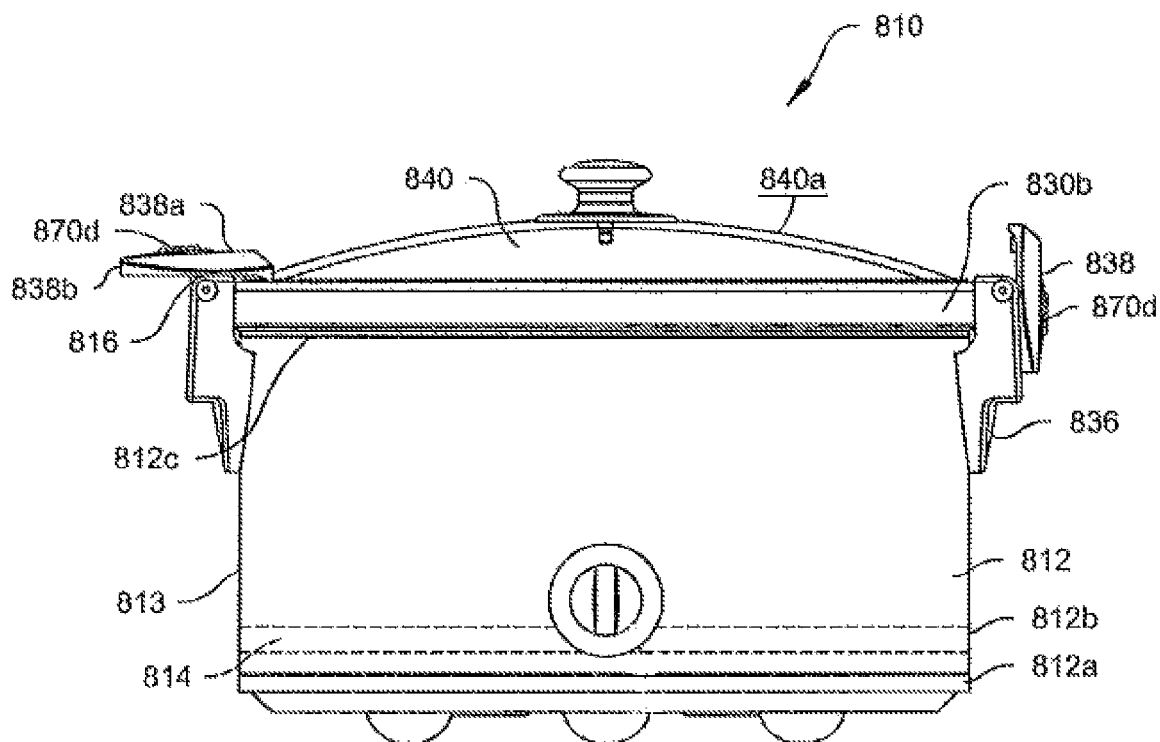


Fig. 18

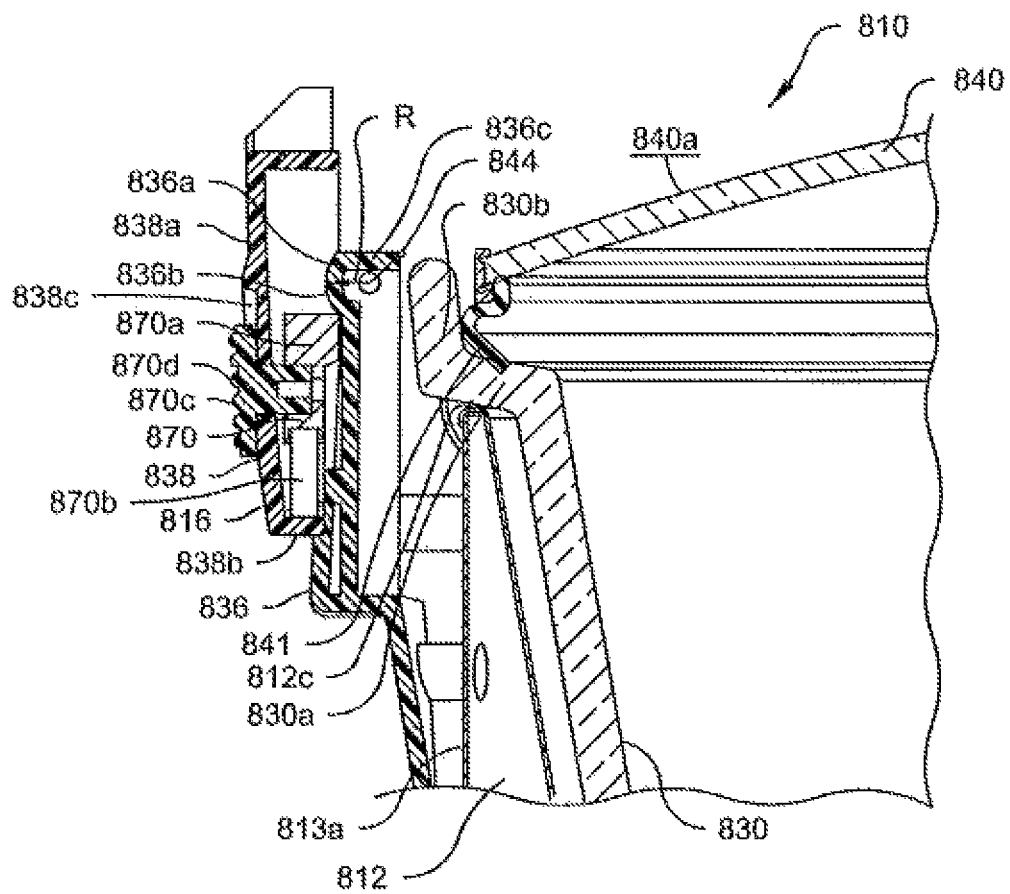


Fig. 19a

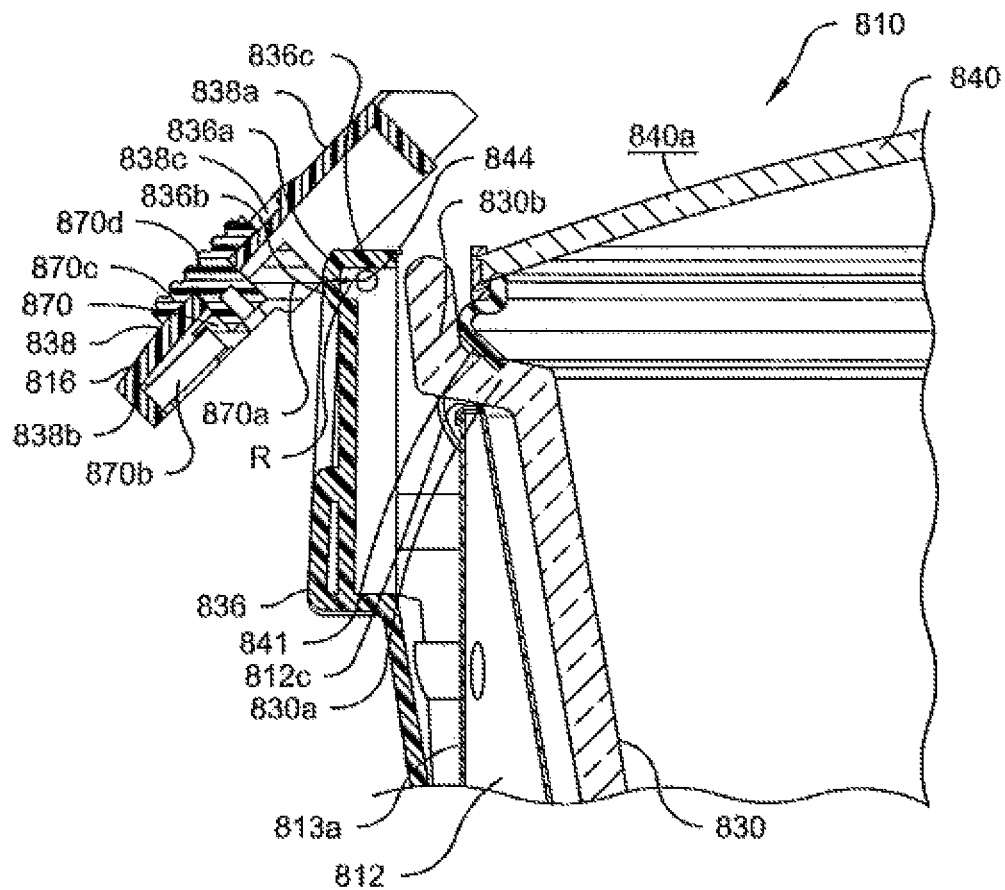


Fig. 19b

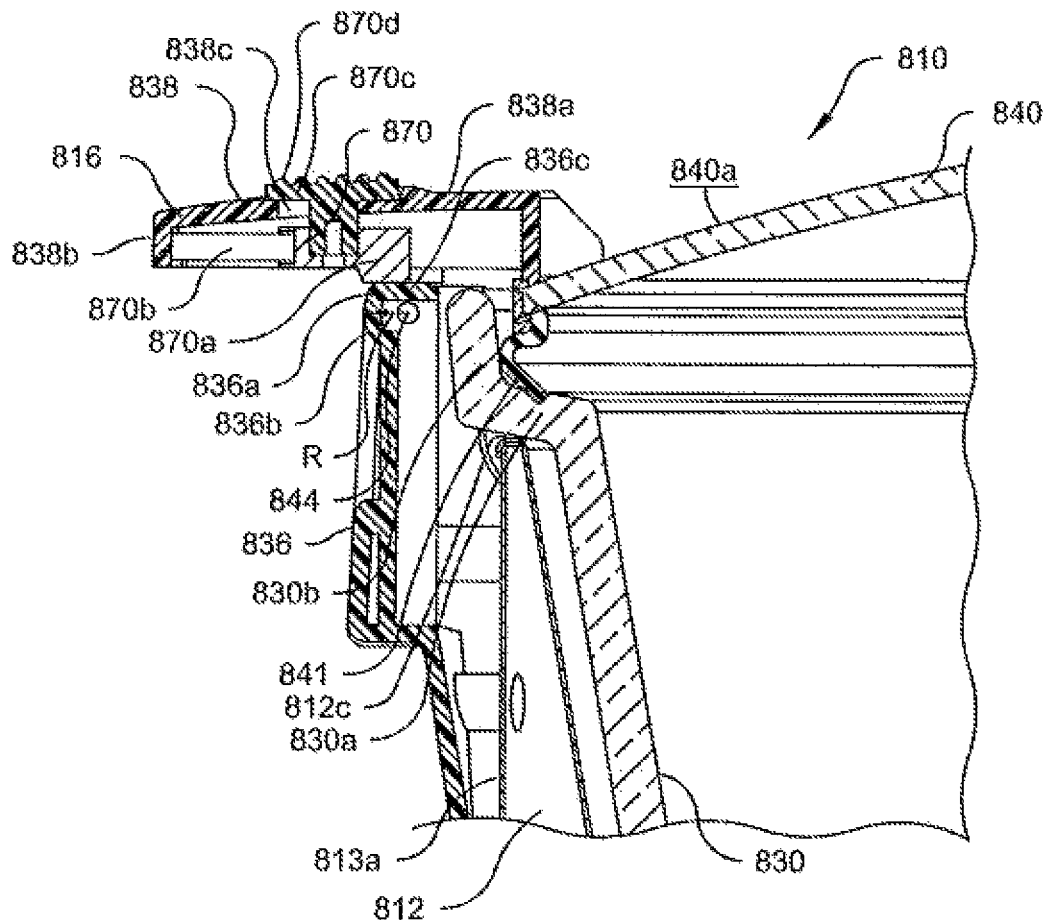


Fig. 19c

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KITCHEN APPLIANCE WITH LOCKING HANDLES

CROSS-REFERENCE TO RELATED APPLICATIONS

The present application is a continuation-in-part (CIP) application of U.S. application Ser. No. 13/476,080, filed on May 21, 2012 and entitled "Kitchen Appliance and Method of Using Same," which is hereby incorporated by reference in its entirety, as if fully set forth herein.

BACKGROUND OF THE DISCLOSURE

The present disclosure relates generally to a kitchen appliance and, more particularly, to a slow cooker that can be easily transported with little or no spillage of contents therein.

Kitchen appliances, and particularly slow cookers, are well known. Conventional slow cookers are generally sized and shaped to allow a user to pick-up and move or transport the slow cooker from one location to another. Often, the user may want to move the slow cooker after it is loaded with contents, such as foodstuff to be cooked and/or other contents to be heated.

However, it can be difficult to move or transport conventional slow cookers when foodstuff, particularly liquid, has been placed therein without spilling some of the foodstuff. The components of conventional slow cookers are not made to close tolerances, and any lid of a conventional slow cooker is typically not securely engaged with a container of the slow cooker when in a closed position. This creates a potential for the lid to inadvertently slide off the container when the slow cooker is being carried from one location to another. Also, because the lid is not usually engaged with a tight fit and because foodstuff cooked in a slow cooker, such as soup, chili, stew, etc., typically has a significant liquid content, there exists the potential of significant spillage if the slow cooker is tilted during transport.

It has heretofore not been discovered how to make the engagement and sealing of the lid to the container of a slow cooker simpler and more user friendly. The device of the present disclosure overcomes and/or eliminates at least one of the above or other shortcomings of conventional appliances.

BRIEF SUMMARY OF THE DISCLOSURE

Briefly stated, one aspect of the present disclosure is directed to a kitchen appliance. The kitchen appliance comprises a housing having a base adapted to rest on a support surface and a side wall extending upwardly therefrom. The side wall has an exterior surface and an opposing interior surface. At least portions of the interior surface of the side wall and the base define a cavity within the housing. The housing has a housing rim at a first, free edge of the side wall defining an opening to the cavity. A heating or cooling element is disposed within the housing proximate the cavity to heat or cool the cavity. A container is sized and shaped to fit within the cavity of the housing. The container has a generally hollow interior adapted to retain contents therein and a container rim adjacent an upper end thereof defining an opening for accessing the interior thereof. A lid is sized and shaped to at least partially cover the opening of the container when placed on the container. The lid has an exterior surface and an opposing interior surface facing the interior of the container when the lid is placed on the container. At least one handle assembly engageable by a user for carrying the kitchen appliance includes a handle anchor positioned on the housing and

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a handle pivotably connected thereto. The handle is pivotable between an engaged position in which at least a portion of the handle contacts the lid to retain the lid in sealing engagement with the container rim for inhibiting leakage of the contents from the interior of the container, and a disengaged position in which the portion of the handle is spaced-apart from the lid to permit the lid to be removed from the container rim. The handle includes a locking mechanism for locking the handle in the engaged position.

Briefly stated, in another aspect, the present disclosure is directed to a kitchen appliance comprising a housing having a base adapted to rest on a support surface and a side wall extending upwardly therefrom. The side wall has an exterior surface and an opposing interior surface. At least portions of the interior surface of the side wall and the base define a cavity within the housing. The housing has a housing rim at a first, free edge of the side wall defining an opening to the cavity. A heating or cooling element is disposed within the housing proximate the cavity to heat or cool the cavity, and a container sized and shaped to fit within the cavity of the housing. The container has a generally hollow interior adapted to retain contents therein and a container rim adjacent an upper end thereof defining an opening for accessing the interior thereof.

A lid is sized and shaped to at least partially cover the opening of the container when placed on the container. The lid has an exterior surface and an opposing interior surface facing the interior of the container when the lid is placed on the container. At least one handle assembly engageable by a user for carrying the kitchen appliance includes a handle anchor positioned on the housing and a handle pivotably connected thereto. The handle is pivotable between an engaged position in which at least a portion of the handle contacts the lid to retain the lid in sealing engagement with the container rim for inhibiting leakage of the contents from the interior of the container, and a disengaged position in which the portion of the handle is spaced-apart from the lid to permit the lid to be removed from the container rim. The handle anchor includes a handle anchor catch defining an upper end thereof, having a generally planar top surface and an arcuate side surface defining a radius facing away from the exterior surface of the side wall of the housing. The handle includes a locking mechanism for locking the handle in the engaged position. The locking mechanism comprises a biasing member adapted to bias the locking member from a first, unlocked position to a second, locked position when the handle is in the engaged position, and a lock release adapted to move the locking member from the second, locked position to the first, unlocked position. In the disengaged position of the handle, the arcuate surface of the handle catch defines a stop surface abutting the locking member, stopping the biasing member from moving the locking member from the first, unlocked position to the second, locked position. In the engaged position, the locking member clears the arcuate surface of the handle catch and is positioned on substantially even level with, and is slidable along, the generally planar top surface of the handle anchor catch. The arcuate surface no longer stops the biasing member from moving the locking member from the first, unlocked position to the second, locked position of the handle. In the first, unlocked position of the locking member, the locking member clears the radius of the handle catch arcuate surface, such that the handle is pivotable from the engaged position to the disengaged position. In the second, locked position of the locking member, the handle anchor catch obstructs pivoting of the locking member about the

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catch, such that the handle is prevented from freely pivoting from the engaged position to the disengaged position.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

The foregoing summary, as well as the following detailed description of the disclosure, will be better understood when read in conjunction with the appended drawings. For the purpose of illustrating the disclosure, there are shown in the drawings embodiments which are presently preferred. It should be understood, however, that the disclosure is not limited to the precise arrangements and instrumentalities shown. In the drawings:

FIG. 1 is a top front perspective view of a kitchen appliance according to a first embodiment of the present disclosure, wherein a handle is in an engaged position;

FIG. 2 is a partially exploded top front perspective view thereof, wherein the handle is in a disengaged position;

FIG. 3 is a top front perspective view of the kitchen appliance according to a second embodiment of the present disclosure, wherein the handle is in the engaged position;

FIG. 4 is a partially exploded top front perspective view thereof, wherein the handle is in the disengaged position;

FIG. 5 is a top front perspective view of the kitchen appliance according to a third embodiment of the present disclosure, wherein the handle is in the engaged position;

FIG. 6 is a partially exploded top front perspective view thereof, wherein the handle is in the disengaged position;

FIG. 7 is an enlarged partially cross-sectional front elevational view of a portion of the kitchen appliance according to a fourth embodiment of the present disclosure, wherein the handle is in the engaged position;

FIG. 8 is an enlarged partially cross-sectional front elevational view of a portion thereof, wherein the handle is in the disengaged position and a lid is separated from a remainder of the kitchen appliance;

FIG. 9 is a top front perspective view of the kitchen appliance according to a fifth embodiment of the present disclosure, wherein the handle is in the engaged position;

FIG. 10 is a partially exploded top front perspective view thereof, wherein the handle is in the disengaged position;

FIG. 11 is a top front perspective view of the kitchen appliance according to a sixth embodiment of the present disclosure, wherein the handle is in the engaged position;

FIG. 12 is a partially exploded top front perspective view thereof, wherein the handle is in the disengaged position;

FIG. 13 is a top front perspective view of the kitchen appliance according to a seventh embodiment of the present disclosure, wherein the handle is in the engaged position;

FIG. 14 is a top front perspective view thereof, wherein the handle is in the disengaged position and the lid is rested in an open position within a portion of the handle;

FIG. 15 is a top front perspective partially cut-away view of the kitchen appliance according to an eighth embodiment of the present disclosure, wherein the handle is in the engaged position;

FIG. 16 is a top front perspective view thereof, wherein the handle is in the disengaged position and the lid is rested in an open position within a portion of the handle;

FIG. 17A is an enlarged cross-sectional front elevational view of a portion thereof taken along line 17-17 of FIG. 15 when the handle is in the engaged position;

FIG. 17B is an enlarged cross-sectional front elevational view of a portion thereof taken along line 17-17 of FIG. 15 when the handle is in the disengaged position;

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FIG. 18 is a front elevational view of a slow cooker according to a ninth embodiment of the present disclosure, wherein one handle is in a disengaged position and the other handle is in an engaged position;

FIG. 19a is an enlarged partial cross-sectional view of a portion of the slow cooker of

FIG. 18, wherein the handle is in the disengaged position and the locking member is in the first, unlocked position;

FIG. 19b is an enlarged partial cross-sectional view of a portion of the slow cooker of FIG. 18, wherein the handle is in rotation between the disengaged position and the engaged position and the locking member is in the first, unlocked position; and

FIG. 19c is an enlarged partial cross-sectional view of a portion of the slow cooker of FIG. 18, wherein the handle is in the engaged position and the locking member is in the second, locked position.

DETAILED DESCRIPTION OF THE DISCLOSURE

Certain terminology is used in the following description for convenience only and is not limiting. The words “lower,” “bottom,” “upper” and “top” designate directions in the drawings to which reference is made. The words “inwardly,” “outwardly,” “upwardly” and “downwardly” refer to directions toward and away from, respectively, the geometric center of the kitchen appliance, and designated parts thereof, in accordance with the present disclosure.

Unless specifically set forth herein, the terms “a,” “an” and “the” are not limited to one element, but instead should be read as meaning “at least one.” The terminology includes the words noted above, derivatives thereof and words of similar import.

Referring to the drawings in detail, wherein like numerals indicate like elements throughout, FIGS. 1 and 2 show a kitchen appliance, generally designated 10, according to a first embodiment of the present disclosure. The kitchen appliance 10 is illustrated as a slow cooker for warming and/or cooking (collectively referred to as heating) contents (none shown), such as foodstuff or another object, therein. However, the present disclosure is not limited to such a device or functionality. For example, the kitchen appliance 10 may be any of a variety of devices typically used in a kitchen, such as a deep fryer, roaster oven, or the like. In fact, the kitchen appliance 10 could be any type of device having a lid and a container, as described in detail below. The term “foodstuff,” as used herein, is sufficiently broad to cover any substance that is capable of being consumed by a user, such as a pork roast, vegetables, water, milk or the like, or any combination thereof. The kitchen appliance 10 is also capable of heating or cooling one or more objects (not shown) other than foodstuff, such as a baby’s bottle, one or more stones or towels for a massage, or the like.

Referring to FIGS. 1 and 2, the kitchen appliance 10 includes a housing 12 having a base 12a and a side wall 12b extending therefrom. The side wall 12b preferably extends at least generally perpendicularly to the base 12a. However, as should be understood by those of ordinary skill in the pertinent art, the side wall 12b may extend at an obtuse or acute angle to the base 12a. The side wall 12b includes an exterior surface 13 that faces and/or is exposed to the external environment and an opposing interior surface (not shown). At least portions of the interior surface of the side wall 12b and an interior or upper surface of the base 12a surround and/or define a cavity of the housing 12. As shown in FIG. 2, the housing 12 also includes a housing rim 12c at an upper free

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edge of the side wall **12b**. The housing rim **12c** surrounds and/or defines an opening to the cavity of the housing **12**.

Preferably, the base **12a**, the side wall **12b** and the housing rim **12c** are generally ovalar or elliptical in shape when viewed from above or below. Thus, the housing **12** preferably has a major axis A_1 and a minor axis A_2 (not shown in FIGS. **1** and **2**, but see the second embodiment shown in FIG. **3**). The minor axis A_2 extends at least generally, and preferably exactly, perpendicularly to the major axis A_1 . While the ovalar or elliptical shape is preferred, the base **12a** may have a different shape, such as, but not limited to, circular or rectangular in plan view. The base **12a** may include several generally spaced-apart, rounded protrusions or feet (not shown) extending downwardly from a bottom surface thereof for supporting the kitchen appliance **10** on a support surface (not shown), such as a countertop, and spacing the bottom surface of the base **12a** at least slightly above the support surface. Alternatively, the kitchen appliance **10** may include no feet, such that the kitchen appliance **10** is supported by the bottom surface of the base **12a** directly on the support surface.

Referring specifically to FIG. **1**, a heating or cooling element **14** (shown in phantom) is preferably disposed within the housing **12** proximate the cavity to heat and/or cool the cavity. The heating or cooling element **14** may be located within or on the interior surface of the side wall **12b** of the housing **12**, or may be disposed within the base **12a** of the housing **12** in addition to or instead of the side wall **12b**. The heating or cooling element **14** may be electrically powered and is preferably a resistance-type heating element, such as a calrod or mica board heating element. However, a different type of heating or cooling element may be used, provided the heating or cooling element functions to heat and/or cool the cavity of the housing **12**.

A control knob **24** preferably extends outwardly from the side wall **12b** of the housing **12** to enable a user to control the heating or cooling element **14**. Thus, the control knob **24** is preferably operatively connected to the heating or cooling element **14**. It is preferred that rotation of the knob **24** by a user toggles the heating or cooling element **14** between at least one "on" setting and an "off" setting. It is further preferred that the heating or cooling element **14** have at least two "on" settings, specifically a "high" heat setting and a "low" heat setting. Although two heat settings are preferred, it is further contemplated that alternate configurations may be used, such as, but not limited to, rotation of the knob **24** actuating a thermostat (not shown) to cause the heating or cooling element **14** to heat and/or cool the cavity of the housing **12** to a specific user selected temperature. The kitchen appliance **10** is not limited to the size, shape, configuration and/or functionality of the control knob **24** shown and described herein. Instead, the kitchen appliance **10** may have a control interface (not shown), with one or more buttons, switches or the like, in addition to or in place of the control knob **24**.

Referring to FIGS. **1** and **2**, the kitchen appliance **10** preferably includes a container **30** sized and/or shaped to fit within the cavity of the housing **12** for heating and/or cooling thereof by the heating or cooling element **14**. More specifically, an exterior of the container **30** is preferably at least slightly smaller than the interior of the cavity of the housing **12**, such that at least a majority of the container **30** fits within the cavity of the housing **12**. The container **30** is preferably made of stoneware or ceramic. However, the container **30** may be made of a different material, such as cast iron with a porcelain enamel coating, for instance, provided the container **30** is capable of functioning as described herein. Additionally, it is preferable that the container **30** be easily remov-

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able from the housing **12** to facilitate cleaning thereof without exposing the housing **12**, and specifically the heating or cooling element **14** and other electrical components thereof, to water and/or cleaning detergents or solvents.

The container **30** preferably includes a generally hollow interior (not shown in FIGS. **1** and **2**, but see the interior **130a** of the container **130** of the second embodiment shown in FIG. **4**). A container rim **30b** preferably defines an opening for accessing the interior of the container **30**. The interior of the container **30** is capable of retaining the contents therein. The phrase "container rim," as used herein, may simply be a top or upper-most horizontal edge of a side wall of the container **30**. Additionally and/or alternatively, the phrase "container rim" may be at least a portion of a ledge (not shown in FIGS. **1** and **2**, but see the ledges **230b'**, **330b'** of the third and fourth embodiments shown in FIGS. **6** and **8**, respectively) spaced inwardly and at least slightly downwardly from the upper-most horizontal edge of the side wall of the container **30**.

Referring to again FIGS. **1** and **2**, the kitchen appliance **10** preferably includes a lid **40** sized and shaped to at least partially and preferably completely cover the opening of the container **30** when the lid **40** is placed on or adjacent to the container rim **30b**. The lid **40** includes a top or exterior surface **40a** and an opposing bottom or interior surface (not shown) that faces the interior of the container **30** when the lid **40** is placed on or adjacent to the container rim **30b**. A lid handle, or knob, **42** preferably extends outwardly or upwardly from the exterior surface **40a** of the lid **40**. Preferably, the lid **40** has at least a slightly arcuate shape, such that the exterior surface **40a** is generally convex and the interior surface is generally concave. Alternatively, at least one or both of the exterior surface **40a** and the interior surface of the lid **40** may be at least partially or entirely flat. The lid **40** is preferably predominantly made of glass, although the lid **40** may be made of a different, preferably transparent or translucent material, such as a polymeric material, for instance, provided the lid **40** functions as described herein.

The lid **40** is preferably generally ovalar or elliptical when viewed from above or below to correspond to or at least generally match the shape of the opening of the container **30**.

Preferably, when placed on the container rim **30b**, the lid **40** covers the entire opening of the container **30** such that an entire outer periphery of the lid **40** engages and/or is placed adjacent to the container rim **30b**. The lid **40** is shown herein to have an outer periphery and a diameter that is at least slightly smaller than an outer periphery and a diameter of the container rim **30b**, because at least a portion of the outer periphery of the lid **40** rests on the ledge (see FIG. **7**) at least slightly inwardly from the outer periphery of the container **30**. However, in an alternative embodiment, such as that shown in FIG. **3** of the second embodiment described in detail below, the outer periphery of the lid **40** may match or be about the same size as or slightly smaller than the outer periphery of the container **30**.

Referring to FIG. **2**, a gasket **41** preferably extends around and/or below one of the outer periphery or edge of the lid **40** and the container rim **30b** for sealing the lid **40** to the container **30**. More specifically, when the lid **40** is removed from the container **30**, the gasket **41** may extend around and/or be attached to the outer edge or periphery of the lid **40** or the interior surface of the lid **40** proximate the outer edge thereof. Alternatively, the gasket **41** may be extend around and/or be attached to the container rim **30b**. The gasket **41** is preferably formed of a resiliently flexible material, such as an elastomeric or rubber material. The gasket **41** may be identical to that disclosed in U.S. Pat. No. 7,947,928, which is herein incorporated by reference in its entirety. However, instead of

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a circular or ovular cross-sectional shape, the gasket **41** may have a Z or zig-zag shape. Regardless of the cross-sectional shape of the gasket **41**, the gasket **41** is preferably at least slightly compressible to create at least a generally liquid-tight seal between the lid **40** and the container rim **30b** when the lid **40** is properly placed on the container **30** and a handle **16** is in an engaged position, as described in detail below.

Referring again to FIGS. **1** and **2**, the kitchen appliance **10** preferably includes at least one handle **16** pivotably mounted to and extending outwardly or upwardly from one of the exterior surface **13** of the side wall **12b** of the housing **12** and the exterior surface **40a** of the lid **40**. As described in detail below, the at least one handle **16** preferably allows the kitchen appliance **10** to be relatively easily lifted and/or transported, while simultaneously sealing and/or locking the lid **40** onto the container **30** to prevent leakage of the contents within the container **30**. More preferably, the kitchen appliance **10** preferably includes two handles **16** equidistantly spaced-apart around the side wall **12b** of the housing **12**. The handles **16** are preferably in diametrically opposed relation to one another and are disposed along the major axis A_1 of the housing **12**. However, the handles **16** are not limited to such an orientation or configuration, as the handles **16** may be arranged along the minor axis A_2 of the housing **12** or at a position therebetween.

Each handle **16** is preferably pivotable between an engaged position (FIG. **1**) and a disengaged position (FIG. **2**). In the engaged position, it is preferred that at least a portion of the handle **16** contacts one of the exterior surface **40a** of the lid **40** and the exterior surface **13** of the side wall **12b** of the housing **12** to retain the lid **40** in sealing engagement with the container rim **30b** and at least partially compress the gasket **41** therebetween for inhibiting leakage of the contents from the interior of the container **30**. In the engaged position, the handles **16** are preferably grasped by the hand of a user to allow the kitchen appliance **10** to be picked-up and/or transporting without allowing the contents to spill or exit from the interior of the container **10**. In the disengaged position (FIG. **2**), the same portion of the handle **16**, and preferably the entire handle **16**, is spaced-apart from the other one of the lid **40** and the side wall **12b** of the housing **12** to permit the lid **40** to be removed from the container rim **30b**. The handle **16** is preferably formed of a light-weight, high-strength material, such as a polymeric or metallic material.

The handle **16** preferably includes a first end **16a** and an opposing second end (not shown in FIGS. **1** and **2**, but see the second end **216b** of the handle **216** of the third embodiment shown in FIG. **6**). Each of the first and second ends **16a**, **16b** are preferably proximate to and pivotably mounted to one of the exterior surface **13** of the side wall **12b** of the housing **12** and the exterior surface **40a** of the lid **40**. The major axis A_1 of the housing **12** preferably extends through or between the first and second ends **16a**, **16b** of each handle **16**. Each handle **16** is preferably pivotable about an axis that extends generally, if not exactly, perpendicular to the major axis A_1 of the housing **12**. Each of the first and second ends **16a**, **16b** of the handle **16** are preferably positioned below the housing rim **12c** in both the engaged and disengaged positions.

As shown in FIGS. **1** and **2**, a base **28** of the handle **16** may be fixedly attached to one of the exterior surface **13** of the side wall **12b** of the housing **12** and the exterior surface **40a** of the lid **40** and preferably extends outwardly or upwardly therefrom. The first and second ends **16a**, **16b** of each handle **16** are preferably pivotably attached to the base **28**. A pivot pin (not shown) may extend outwardly from the base **28** and the first and second ends **16a**, **16b** of each handle **16** may be rotatable about the pivot pin. As such, the first and second ends **16a**, **16b** of each handle **16** are preferably laterally spaced-apart from

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the side wall **12b** of the housing **12**. Alternatively, the first and second ends **16a**, **16b** of each handle **16** may be directly attached to one of the exterior surface **13** of the side wall **12b** and the exterior surface **40a** of the lid **40**.

Each handle **16** also preferably includes a connection portion **16c** extending between and/or from the first end **16a** to the second end **16b**. The connection portion **16c** is preferably the portion of the handle **16** that contacts one of the exterior surface **40a** of the lid **40** and the exterior surface **13** of the side wall **12b** of the housing **12** in the engaged position. The connection portion **16c** preferably extends outwardly and/or upwardly away from the first and second ends **16a**, **16b** of the handle **16**. The connection portion **16c** of each handle **16** is preferably grasped by the hand of the user when the kitchen appliance **10** is lifted and/or transported. In the disengaged position of each handle **16**, at least a portion of the connection portion **16c** may contact a portion of the exterior surface **13** of the side wall **12b** of the housing **12**. An opening **20** is preferably formed between at least a portion of the connection portion **16c** of the handle **16** and one of the exterior surface **13** of the side wall **12b** of the housing **12** and the exterior surface **40a** of the lid **40**. The opening **20** is preferably sufficiently sized and/or shaped to allow a user to insert at least a portion and preferably his/her entire hand therethrough.

In the first embodiment, the connection portion **16c** of the handle **16** preferably includes at least one extension **18** extending inwardly or outwardly therefrom when the handle **16** is in the engaged and disengaged positions, respectively. The extension **18** is preferably at least generally rigid and fixedly attached to the connection portion **16c**. The extension **18** preferably contacts one of the exterior surface **40a** of the lid **40** and the exterior surface **13** of the side wall **12b** of the housing **12** in the engaged position of the handle **16**. More preferably, each handle **16** preferably includes two spaced-apart extensions **18** that extend inwardly toward the interior of the housing **12** when the handle **16** is in the engaged position. Each extension **18** of the connection portion **16c** of the handle **16** preferably snaps over at least a portion of the container rim **30b** when the handle **16** is moved between the engaged position and the disengaged position. In the engaged position, at least a portion of each extension **18** extends over or across the container rim **30b**.

In use, both handles **16** are preferably placed in or moved to the disengaged position (FIG. **2**) when the heating element **14** is activated and/or contents within the interior **30a** of the container **30** are heated. Otherwise, an undesirable build-up of pressure may occur within the interior **30a** of the container **30**. Once the heating element **14** has been turned "off" and/or the contents within the interior **30a** of the container **30** are sufficiently heated, at least one and preferably both of the handles **16** are moved from the disengaged position (FIG. **2**) to the engaged position (FIG. **1**) to generally lock and/or seal the lid **40** onto the container **30** and allow the kitchen appliance **10** to be lifted and/or transported. Once the kitchen appliance **10** has arrived at the desired location, each handle **16** is preferably moved or rotated to the disengaged position (FIG. **2**), at which time the heating element **14** may be activated to heat the contents of the container **30** or the lid **40** may be removed from the container **30** to provide access to the interior **30a** of the container **30**. The rotatable and locking/sealing features of the handle **16** eliminate the need for additional structure to be added to the kitchen appliance **10** to inhibit leakage of contents from the interior **30a** of the container **30**.

FIGS. **3** and **4** show a second embodiment of the kitchen appliance **110**. The reference numerals of the second embodiment are distinguishable from those of the first embodiment

by a factor of one-hundred (100), but otherwise indicate the same elements as indicated in the first embodiment, except as otherwise specified. The kitchen appliance 110 of the second embodiment is substantially similar to that of the first embodiment. The description of certain similarities between the embodiments may be omitted herein for the sake of brevity and convenience, and, therefore, is not limiting.

A distinguishing feature of the second embodiment is that one of the exterior surface 140a of the lid 140 and the exterior surface 113 of the side wall 112b of the housing 112 includes at least one depression 120 therein. More preferably, the lid 140 includes two spaced-apart depressions 120 therein. Each depression 120 preferably extends from the exterior surface 140a of the lid 140 toward the interior surface (not shown) thereof. Each depression 120 may be sized and/or shaped as a generally circular or ovalar dimple, but the depressions 120 are not limited to such a configuration. For example, each depression 120 may be an elongated or eccentrically-shaped slot. In a configuration in which the handle 116 is pivotably attached to the exterior surface 113 of the side wall 112b of the housing 112, each depression 120 is preferably spaced a predetermined distance inwardly from the outer edge of the lid 140. Each depression 120 may be formed directly in or integrally with the exterior surface 140a of the lid 140 or the exterior surface 113 of the side wall 112b of the housing 112. Alternatively, each depression 120 may be formed in a pad 126 fixedly or removably attached to the exterior surface 140a of the lid 140 or the exterior surface 113 of the side wall 112b of the housing 112. The pad 126 is preferably positioned on the opposite one of the lid 40 and the housing 12 from the base 128. In a preferred embodiment in which the pads 126 are attached or mounted to the lid 140, each pad 126 may be positioned at or inwardly spaced-apart from the outer edge of the lid 140, and each pad 126 is preferably spaced-apart from the lid handle 142.

The connection portion 116c of each handle 116 preferably includes the at least one and more preferably the two spaced-apart extensions 118 (FIG. 4). At least a portion of each extension 118 is preferably complementarily sized and/or shaped to engage at least a portion of one of the depressions 120. More specifically, at least a portion of each extension 118 preferably extends at least partially into one of the depressions 120 when the handle 116 is in the engaged position. The contact of the depressions 120 with the respective extensions 118 is preferably sufficiently strong so as to prevent inadvertent movement of each handle 116 out of the engaged position even when the kitchen appliance 10 is lifted and/or transported by the handles 116. It is preferred that each handle 116 can be removed from the engaged position by apply a sufficient amount of pulling and/or lifting force to the handle 116 to remove the extensions 118 from the respective depressions 120.

In the second embodiment, a plate 132 preferably separates the first end 116a of the handle 116 from the second end (not shown) and extends therebetween. The connection portion 116c of the handle 116 preferably extends at least partially around the plate 132, and at least a portion of the connection portion 116c is preferably spaced-apart from the plate 132. In the engaged position of the handle 116, the plate 132 preferably extends from below the housing rim 112c to above housing rim 112c and at least partially around the housing rim 112c. In the engaged position of the handle 116, at least a portion of the plate 132 preferably contacts at least a portion of the pad 120 to help prevent inadvertent removal of the handle 116 from the engaged position. The plate 132 also preferably provides structural rigidity to the handle 116. The plate 132 is preferably a solid piece that extends continuously

from the first end 116a of the handle 116 to the second end thereof and is fixedly attached thereto.

In the engaged position, each handle 116 preferably imparts a downward force on the lid 140. Since the handles 116 are spaced-apart on the outer periphery of the kitchen appliance 10, two separate and spaced-apart forces are preferably imparted onto the lid 140 proximate the outer edge thereof. The two forces are preferably of equal magnitude and preferably provide a symmetry to the kitchen appliance 10 during transport. In the engaged position, the handles 116 combine to at least partially compress the gasket to form and maintain a seal between the lid 140 and the container 130.

FIGS. 5 and 6 show a third embodiment of the kitchen appliance 210. The reference numerals of the third embodiment are distinguishable from those of the first embodiment by a factor of two-hundred (200), but otherwise indicate the same elements as indicated in the first embodiment, except as otherwise specified. The kitchen appliance 210 of the third embodiment is substantially similar to the first and second embodiments described above. The description of certain similarities between the embodiments may be omitted herein for the sake of brevity and convenience, and, therefore, is not limiting.

A distinguishing feature of the third embodiment is that the extension 218 of each handle 216 preferably extends across an entire width of the handle 216, as measured from the first end 216a to the second end 216b thereof. In other words, a center or midportion of the extension 218 of each handle 216 is equidistantly spaced between the first end 216a and the second end 216b thereof. In the third embodiment, the extension 218 of each handle 216 is preferably at least slightly arcuate or curved. The opening 220 of each handle 216 is preferably formed between the extension 218 and at least a portion of the connection portion 216c. A second opening 220a of each handle 216 is preferably formed between the extension 218 and the respective base 128.

Referring to FIG. 6, it is preferred that at least a portion of the pad 226 extends outwardly beyond the outer edge of the lid 240 or upwardly beyond the housing rim 212c.

Another portion of the pad 226 preferably extends inwardly to the lid handle 242. The container 230 preferably includes two diametrically opposed protrusions 234 extending outwardly beyond the container rim 230b. When the lid 240 is properly placed on the container 230, it is preferred that at least a portion of each pad 226 that extends beyond the outer edge of the lid 240 is aligned with and/or corresponds to at least a portion of one of the protrusions 234. In the engaged position of each handle 216, at least a portion of each pad 226 is preferably at least partially surrounded, sandwiched and/or at least slightly compressed between at least a portion of the extension 218 of one of the handles 216 and a protrusion 234 extending laterally outwardly from the container rim 230b. Further, in the engaged position of each handle 216, it is preferred that one of the protrusions 234 and a portion of one of the pads 226 extends at least partially through the second opening 220a thereof.

FIGS. 7 and 8 show a fourth embodiment of the kitchen appliance 310. The reference numerals of the fourth embodiment are distinguishable from those of the first embodiment by a factor of three-hundred (300), but otherwise indicate the same elements as indicated in the first embodiment, except as otherwise specified. At least certain portions of the kitchen appliance 310 of the fourth embodiment, such as the housing 312, the container 330, the lid 340 and the gasket 341, are substantially similar to that of the first through third embodiments described above. The description of certain similarities

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between the embodiments may be omitted herein for the sake of brevity and convenience, and, therefore, is not limiting.

A distinguishing feature of the fourth embodiment is that each handle 316 includes a first segment 336, which is fixedly attached to and extends outwardly and/or upwardly from one of the exterior surface 340a of the lid 340 and the exterior surface 313 of the side wall 312b of the housing 312, and a second segment 338, which is pivotably attached to the first segment 336.

The first segment 336 of each handle 316 is preferably fixed to the exterior surface 313 of the side wall 312b of the housing 312 below the housing rim 312c. At least a portion of the first segment 336 of each handle 316 preferably extends upwardly and/or outwardly beyond the housing rim 312c and the container rim 330b when the container 330 is placed within the housing 312. The opening (not shown) of each handle 316 may be formed in at least one of the first and second segments 336, 338 thereof. A pivot point 344, such as a pin or dowel, preferably pivotably attaches the first segment 336 of the handle 316 to the second segment 338. The pivot point 344 of each handle 316 is preferably positioned or located above the housing rim 312c and the container rim 330b when the container 330 is placed within the housing 312. The pivot point 344 preferably extends generally parallel to the support surface when the housing 312 is placed thereon and/or generally, if not exactly, perpendicular to the major axis A₁ of the housing 312.

At least a portion of each handle 316 is preferably biased toward the disengaged position. More specifically, the second segment 338 of each handle 316 is preferably biased toward the disengaged position. For example, a lower or outer portion 338a of the second segment 338 of each handle 316 may have a greater mass than an upper or inner portion 338b thereof. Alternatively, the second segment 338 may be spring biased toward the disengaged position. In the disengaged position, at least a portion of each handle 316 preferably extends generally perpendicularly to the support surface when the base (not shown in FIGS. 7 and 8) of the housing 312 rests on the support surface. More specifically, as shown in FIG. 8, both the lower portion 338a and the upper portion 338b of the second segment 338 of each handle 316 preferably extend perpendicularly to the support surface when the base (not shown) of the housing 312 rests on the support surface. In the engaged position, at least a portion of the handle 316 extends generally parallel to the support surface. More specifically, as shown in solid lines in FIG. 7, both the lower portion 338a and the upper portion 338b of the second segment 338 of each handle 316 extend parallel to the support surface when the base of the housing 312 rests on the support surface.

When the kitchen appliance 310 is lifted from the support surface and/or transported, a user preferably grasps and/or raises at least the lower portion 338a of the second segment 338 of each handle 316, which preferably causes the upper portion 338a of each handle 316 to rotate inwardly and/or downwardly. When the lower portion 338a of the second segment 338 is raised to a horizontal configuration (shown in solid lines in FIG. 7), the upper portion 338b of the second segment 338a is also moved to a horizontal configuration (shown in solid lines in FIG. 7). In such a position, at least a distal or inner end of the upper portion 338b of the second segment 338a preferably directly contacts a portion of the lid 340 and imparts a downward force on the lid 340. More specifically, the upper portion 338b of the second segment 338 of each handle 316 preferably includes a cut-out or notch 360 therein to accommodate and/or receive at least a portion of the lid 340 in the engaged position of the handles 316. The

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downward force applied by the second segment 338 of each handle 316 preferably at least partially compresses the gasket 341, which preferably creates at least a generally liquid-tight seal between the lid 340 and the container 330. When the kitchen appliance 310 is placed on the support surface, the bias (i.e., height) of the second segment 338 causes the second segment 338 to pivot to the vertical position (shown in phantom in FIG. 7) to permit the lid 340 to be easily removed from the container 330.

FIGS. 9 and 10 show a fifth embodiment of the kitchen appliance 410. The reference numerals of the fifth embodiment are distinguishable from those of the first embodiment by a factor of four-hundred (400), but otherwise indicate the same elements as indicated in the first embodiment, except as otherwise specified. The kitchen appliance 410 of the fifth embodiment is substantially similar to that of the first through fourth embodiments described above. The description of certain similarities between the embodiments may be omitted herein for the sake of brevity and convenience, and, therefore, is not limiting.

A distinguishing feature of the fifth embodiment is that one of the exterior surface 440a of the lid 440 and the exterior surface 413 of the side wall 412b of the housing 412 includes at least one and preferably two laterally spaced-apart protrusions 446 extending upwardly and/or outwardly therefrom. More specifically, each protrusion 446 extends upwardly from each pad 426 and is preferably integrally, unitarily and monolithically formed therewith. Each protrusion 446 may be generally planar or may be at least slightly arcuate or at least partially in the shape of a hook. Each handle 416 of the fifth embodiment is preferably formed of a resiliently flexible material, such as an elastomeric or rubber material. Each handle 416 is also preferably a single, unitary and monolithically formed piece. At least a portion of each handle 416 is preferably sufficiently resiliently flexible to extend at least partially over and/or around the outer edge of the lid 440 in the engaged position (FIG. 9) and naturally or automatically return to a generally planar position in the disengaged position (FIG. 10).

One end of each handle 416 is removably attachable to one of the lid 440 and the housing 412 and an opposing end of each handle 416 is preferably fixedly attached to the other of the lid 440 and the housing 412. More specifically, each handle 416 includes a slot 448 that is sized and/or shaped to receive at least a portion of the pivot pin 444 therein. The pivot pin 444 preferably defines an axis that extends outwardly from the side wall 412b of the housing 412 and preferably parallel to the major axis A₁ of the housing 412. Each handle 416 may be fixed with respect to one of the pivot pins 444, or each handle 416 may be rotatable about the respective pivot pin 444 so that the entire handle 416 can be rotated or positioned below the housing rim 412c in the disengaged position. An end of each handle 416 generally opposite to the slot 448 preferably has a T-shape. In the engaged position, at least a portion of each handle 416 is preferably positioned between two of the protrusions 446. The engagement of the protrusions 446 with a portion of each handle 416 preferably prevents inadvertent removal of the lid 440 from the housing 412. To place each handle 416 in the disengaged position, each handle 416 is preferably lifted or otherwise removed from between the respective pair of protrusions 446.

To move each handle 416 from the disengaged position (FIG. 10) to the engaged position (FIG. 9), an upper end of each handle 416 is preferably moved inwardly toward a geometric center of the kitchen appliance 10 and/or the lid handle 442. As each handle 416 is moved inwardly, a portion thereof preferably contacts at least a portion of the outer edge of the

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lid 440, which preferably causes the handle 416 to bend at the outer edge of the lid 440 and impart a downward and/or inward force onto the lid 440. The force is preferably maintained once the upper end of each handle 416 engages and/or surrounds at least a portion of the respective protrusions 446. Once in the engaged position, the connection between the handles 416 and the respective protrusions 446 is preferably sufficiently strong to permit the kitchen appliance 10 to be lifted by the handles 116, such as at a vertical midportion thereof, without causing the handles 416 to become disengaged from the protrusions 446. Alternatively, once the handles 416 are in the engaged position, the entire kitchen appliance 10 may be lifted and/or transported simply by grasping and raising the lid handle 442.

FIGS. 11 and 12 show a sixth embodiment of the kitchen appliance 510. The reference numerals of the sixth embodiment are distinguishable from those of the first embodiment by a factor of five hundred (500), but otherwise indicate the same elements as indicated in the first embodiment, except as otherwise specified. The kitchen appliance 510 of the sixth embodiment is substantially similar to that of the first and fifth embodiments described above. The description of certain similarities between the embodiments may be omitted herein for the sake of brevity and convenience, and, therefore, is not limiting.

A distinguishing feature of the sixth embodiment is that at least one and preferably two diametrically opposed catches 550 extend outwardly from one of the lid 540 and the exterior surface 513 of the side wall 512b of the housing 512. More specifically, it is preferred that each catch 550 extends laterally outwardly from the outer edge of the lid 530. In the sixth embodiment, each catch 550 is preferably square or rectangular in shape, but the catches 550 are not limited to be any particular size and/or shape. For example, each catch 550 may be generally circular or ovalar in shape, in the shape of a hook, or even eccentrically shaped. When the lid 540 is properly mounted to the container 530 and the container 530 is properly positioned within the housing 512, the catches 550 preferably extend along and/or parallel to the major axis A₁ of the housing 512.

Each handle 516 of the sixth embodiment is preferably generally flat or planar in shape, and is preferably formed of a generally rigid material, such as a polymeric or metallic material. The first and second ends 516a, 516b of each handle 516 are preferably pivotably attached to the base 528. Each handle 516 preferably includes the opening 520 that extends completely therethrough. The opening 520 is preferably spaced a predetermined distance inwardly from an outer periphery of the handle 516. In contrast to the opening 20 of the first embodiment described above (see FIG. 1), the opening 520 of the sixth embodiment is smaller in size so as to generally prevent the insertion of the user's hand, or even a portion of a user's finger, therethrough. Instead, the opening 520 of each handle 516 is preferably sized and shaped to receive at least a portion of one of the catches 550, such that at least a portion of each catch 550 occupies the entire respective opening 520. The opening 520 of each handle 516 preferably generally tightly and/or snugly surrounds at least a portion of one of the catches 550 when the handle 516 is in the engaged position. An inner surface of each handle 516 may contact a portion of the outer edge of the lid 540 in the engaged position. In the engaged position, the handle 516 preferably does not extend over and/or around the outer edge of the lid 540 due to each catch 550 extending outwardly beyond the outer edge of the lid 540.

To lock and/or seal the lid 540 to the remainder of the kitchen appliance 510, the outer periphery of the lid 540 is

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preferably placed on and/or aligned with the container rim 530b. Next, the lid 540 is preferably pushed and/or forced at least slightly downwardly (such as by the hand of the user) to at least partially compress the gasket between the lid 540 and the container rim 530b. In this slightly downward position of the lid 540, the catches 550 of the lid 540 are preferably sufficiently vertically positioned so as to be capable of being received in the opening 520 of the respective handle 516 when the handles 516 are in the engaged position (FIG. 11). An upward force created by the bias of the at least partially compressed gasket in the engaged position of the handles 516 preferably helps to maintain the catches 550 within the opening 520 of the respective handle 516 by increasing the friction and/or engagement forces between the catches 550 and the respective opening 520. The entire kitchen appliance 510 can then be lifted by grasping at least a portion of the upper end of one or both of the handles 516, while maintaining the lid 540 in a sealed and/or locked configuration. To remove the handles 516 from the engaged position, a user may need to apply a downward force to the lid 540 to reduce the friction and/or engagement forces between the catches and the openings 520, thereby allowing the handles 516 to be rotated away from the lid 540 to the disengaged position.

FIGS. 13 and 14 show a seventh embodiment of the kitchen appliance 610. The reference numerals of the seventh embodiment are distinguishable from those of the first embodiment by a factor of six hundred (600), but otherwise indicate the same elements as indicated in the first embodiment, except as otherwise specified. At least portions of the kitchen appliance 610 of the sixth embodiment, such as the housing 612, the container 630 and the lid 640 are substantially similar to those of the first through sixth embodiments described above. The description of certain similarities between the embodiments may be omitted herein for the sake of brevity and convenience, and, therefore, is not limiting.

A distinguishing feature of the seventh embodiment is that the lid handle 642 extends across an entire width or length of the lid 640. When the lid 640 is properly mounted to the container 630 and the container 630 is properly positioned within the housing 612, the lid handle 642 preferably extends along and/or parallel to the major axis A₁ of the housing 612. The lid handle 642 is preferably directly attached to the exterior surface 640a of the lid 640 proximate opposing ends thereof and proximate the outer edge of the lid 640. A midportion of the lid handle 642 is preferably spaced-apart or above the exterior surface 640a of the lid 640 such that a passageway 662 is formed therebetween. The entire kitchen appliance 610 can be lifted and/or transported by inserted at least a portion of the user's hand into the passageway 662 and grasping and/or engaging the midportion.

Opposing ends of the lid handle 642 each preferably include the catch 650 that extends at least slightly outwardly beyond the outer edge of the lid 640. The catches 650 are preferably an outer extension of the lid handle 642 and are preferably integrally, unitarily and monolithically formed therewith. In other words, a first end of the lid handle 642, such as one of the two catches 650, preferably extends outwardly beyond an outer periphery of the lid 640 at a first location and an opposing second end of the lid handle 642, such as the other catch 650, preferably extends outwardly beyond the outer periphery of the lid 640 at a second location diametrically opposed to the first location. At least a portion of each catch 650 is preferably at least slightly arcuate or curved in shape and preferably extends at least slightly upwardly beyond at least a portion of the exterior surface 640a of the lid 640. It is preferred that each catch 650 is structural rigid.

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Each handle **616** of the seventh embodiment is preferably mounted to the exterior surface **613** of the side wall **612b** of the housing **612** and positioned completely below the housing rim **612c**. In contrast to the handles **16**, **116**, **216**, **316**, **416**, **516** of the first through sixth embodiments described above, each handle **616** of the seventh embodiment is preferably entirely fixed to the exterior surface **613** of the side wall **612b** of the housing **612**. The first end **616a** and the second end **616b** of each handle **616** is preferably fixed to the exterior surface **613** of the side wall **612** of the housing **612**. The connection portion **616c** of each handle **616** preferably extends in an arcuate manner from the first end **616a** to the second end **616b** thereof. The opening **620** is preferably formed between the connection portion **616c** of each handle **616** and the exterior surface **613** of the side wall **612b** of the housing **612**. As shown in FIG. **14**, at least a portion of one of the catches **650** of the lid handle **642** is preferably insertable into the opening **620** of either handle **616** to support the lid **640** in an open position with respect to the container **630**. The open position of the lid **640** permits access to the interior **630a** of the container **630** while maintaining the lid **640** above the support surface. An arcuate or curved groove **652** is preferably formed in a top surface of each handle **616** and preferably extends from the first end **616a** to the second end **616b** thereof.

The kitchen appliance **610** of the seventh embodiment preferably includes at least one and preferably two diametrically opposed latching mechanisms **654** for selectively retaining the lid **640** in sealing engagement with the container rim **630b** for inhibiting or preventing leakage of the foodstuff from within the interior **630a** of the container **630**. Each latching mechanism **654** is generally an over-the-center clip having at least a wire hook **656** and a lever **658**, and more preferably each latching mechanism **654** includes the hook **656**, the lever **658** and one of the catches **650**. It is preferred that manipulation of the lever **658** causes engagement or release of the hook **656** of the latching mechanism **654**. At least a portion of the hook **656** is preferably sized and shaped to at least partially surround and/or engage one of the catches **650**.

The latching mechanism **654** is preferably mounted or attached to the exterior surface **613** of the side wall **612b** of the housing **612** proximate the housing rim **612c** thereof. Each latching mechanism **654** is preferably aligned with and/or at least partially surrounded by one of the handles **616**. However, one or both of the latching mechanisms **654** may be attached to the exterior surface **640a** of the lid **640**. Preferably, the hook **656** is selectively releasably engagable with one of the catches **650** and/or the lid **640** with movement of the lever **658** to selectively retain the lid **640** in sealing engagement with the container rim **630b**. Specifically, it is preferred that, when in an engaged position (FIG. **13**), the latching mechanism **654** retains the lid **640** in sealing engagement with the container rim **630b** to at least slightly compress the gasket (not shown), and, when in a released or disengaged position (FIG. **14**, for example), the hook **656** is removed from engagement with the catch **650** and/or the lid **640** so that the lid **640** can be removed from the container **630** in order to allow access to the interior **630a** of the container **630**.

In the engaged position, it is preferred that at least a portion of the hook **656** engages and/or rests within at least a portion of one of the catches **650** of the lid handle **642**. In the disengaged position of the latching mechanism **654**, at least a portion of the hook **656** preferably directly contacts at least a portion of the respective handle **616**. More preferably, the hook **656** of each latching mechanism **654** preferably rests

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within the groove **652** of one of the handles **616** in the disengaged position of the latching mechanism **654**.

When the hook **654** is placed in and/or engages one of the catches **650**, the lever **658** of the latching mechanism **654** can be rotated downwardly and inwardly toward the side wall **612b** of the housing **612** to create a retaining force exerted by the latching mechanism **654** on one of the catches **650** and/or the lid **640** in order to retain the lid **640** on the container rim **630b**. To release the latching mechanism **654**, the lever **658** is preferably rotated outwardly and upwardly with respect to the side wall **612b** of the housing **612** to release the retaining force. Once in this position, the hook **656** of the latching mechanism **654** can be removed from engagement with the catch **650** to place the latching mechanism **654** in the disengaged position and enable the lid **640** to be removed from engagement with the container rim **630b**. Those skilled in the art understand when the preferred positioning of the latching mechanism **654** and the catch **650** are reversed, the lever **658** of the latching mechanism **654** is preferably rotated upwardly to retain the lid **640** on the container rim **630b**, and downwardly to release the lid **640** from the container rim **630b**.

Preferably, the latching mechanism **654** exerts a sufficient amount of retaining force on the lid **640** to at least partially compress at least a substantial portion of the gasket of the lid **640** with the container rim **630b**, preferably creating a sufficient seal therebetween to inhibit leakage of the contents, particularly liquids, from within the interior **630a** (FIG. **14**) of the container **630**. While it is preferred that the latching mechanism **654** be of the over-the-center type, the latching mechanism **654** may be of a different type, provided it is capable of functioning in the manner described herein. Further, while it is preferred that the latching mechanisms **654** are each aligned with one of the handles **616**, the latching mechanisms **654** may be arranged differently with respect to the housing **612**, provided the latching mechanisms **654** are capable of functioning to retain the lid **640** in engagement with the container rim **630b** such that the gasket is in sealing engagement with the container rim **630b**.

FIGS. **15-17B** show an eighth embodiment of the kitchen appliance **710**. The reference numerals of the eighth embodiment are distinguishable from those of the first embodiment by a factor of seven hundred (**700**), but otherwise indicate the same elements as indicated in the first embodiment, except as otherwise specified. At least portions of the kitchen appliance **710** of the eighth embodiment, such as the housing **712**, the container **730**, the lid **740** and the gasket **741**, are substantially similar to those of the first and seventh embodiments described above. The description of certain similarities between the embodiments may be omitted herein for the sake of brevity and convenience, and, therefore, is not limiting.

The kitchen appliance **710** of the eighth embodiment includes the at least one catch **750** and preferably two diametrically opposed catches **750** mounted to one of the exterior surface **740a** of the lid **740** and the exterior surface **713** of the side wall **712b** of the housing **712**. Each catch **750** preferably extends outwardly beyond the outer edge of the lid **740** or upwardly beyond the side wall **712b** of the housing **712**. At least a portion of each catch **750** is preferably formed of a material that is resiliently flexible or bendable, or the structure of each catch **750** is configured to be resiliently flexible or bendable. More specifically, each catch **750** preferably includes a resiliently flexible or bendable midportion **750c** that is surrounded by two generally rigid portions **750a**, **750b**. The distal portion **750a** of each catch **750** preferably forms a generally U-shaped loop or enclosure. At least a portion of the proximal portion **750b** of each catch **750** may be fixedly

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attached to the lid handle **742** and/or a portion of the lid **740** so as to fix the lid handle **742** to the lid **740**.

Similar to the seventh embodiment described in detail above, each catch **750** is preferably formed at one of two opposing ends of the lid handle **742** mounted to the exterior surface of the lid **740**. In other words, a first end of the lid handle **742**, and preferably one of the two catches **750**, extends outwardly beyond an outer periphery of the lid **740** at a first location and an opposing second end of the lid handle **742**, and preferably the other catch **750**, extends outwardly beyond the outer periphery of the lid **740** at a second location diametrically opposed to the first location. When the lid **740** is properly mounted to the container **730** and the container **730** is properly positioned within the housing **712**, the midportion **750c** of each catch **750** is preferably capable of extending around and/or bending over the container rim **730b** and/or the housing rim **712c**. Thus, as shown in FIGS. **17A** and **17B**, the midportion **750c** allows each catch **750** to simultaneously extend at least partially in a vertical plane and at least partially in a horizontal plane.

Referring to FIGS. **15**, **17A** and **17B**, the kitchen appliance **710** includes at least one tab **764** preferably rotatably mounted to one of the exterior surface **713** of the side wall **712b** of the housing **712** and the exterior surface **740a** of the lid **740**. More specifically, it is preferred that the kitchen appliance **710** includes two diametrically spaced-apart tabs **764** extending along and/or parallel to the major axis A_1 of the housing **712** and outwardly from the exterior surface **713** of the side wall **712b** of the housing **712**. Each tab **764** is preferably aligned with and/or at least partially surrounded by one of the handles **716**. Each tab **764** includes the pivot pin **744** extending outwardly from the exterior surface **713** of the side wall **712** of the housing **712** and a head **766** extending outwardly from the pivot pin **744**. The pivot pin **744** may be rotatable with respect to the side wall **712b** of the housing **712** and the head **766** may be fixed to the pivot pin **744**. Alternatively, the pivot pin **744** may be fixed with respect to the side wall **712b** of the housing and the head **766** may be rotatable with respect to the pivot pin **744**. As shown in FIGS. **17A** and **17B**, it is preferred that each tab **764**, including the pivot pin **744** and the head **766** thereof, is positioned entirely below the housing rim **712c** and the respective handle **716**. However, at least a portion of each tab **764** may extend above the housing rim **712c** and/or a portion of the respective handle **716**.

To seal and/or lock the lid **740** to the container **730**, at least a portion of each catch **750** is preferably positionable around and/or within at least a portion of one of the tabs **764**. More specifically, the loop or enclosure of the distal portion **750a** of each catch **750** preferably surrounds at least the pivot pin **744** of one of the tabs **764**. To remove the lid **740** from the container **730**, the distal portion **750a** of each catch **750** is preferably moved over and/or beyond the head **766** of one of the tabs **764** and outwardly from the exterior surface **713** of the side wall **712b** of the housing **712**. In such a position, the catches **750** preferably do not prevent the lid **740** from being moved upwardly away from the container **730** to access the interior **730a** thereof.

More specifically, it is preferred that at least a portion of each tab **764**, such as the head **766** thereof, is rotatable between a first or downward position (see FIGS. **15** and **17A**) and a second or upward position (see FIG. **17B**). In the first position, the tab **764** preferably applies a downward force on the distal portion **750a** of the catch **750** to retain the lid **740** in sealing engagement with the container rim **730b** by at least partially compressing the gasket **741** for inhibiting leakage of the contents from the interior of the container **730**. In the second position, the distal portion **750a** of each catch **750** is

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preferably capable of being disengaged from the pivot pin **744** and/or the head **766** of the respective tab **764** to permit the lid **740** to be removed from the container rim **730b**. Each catch **750** preferably extends generally perpendicularly to a plane defined by the housing rim **712c** when the catch **750** engages the respective tab **764** in the first position.

FIGS. **18-19c** show a ninth embodiment of the kitchen appliance **810**. The reference numerals of the ninth embodiment are distinguishable from those of the first embodiment by a factor of eight hundred (**800**), but otherwise indicate the same elements as indicated in the first embodiment, except as otherwise specified. At least portions of the kitchen appliance **810** of the eighth embodiment, such as the housing **812**, the lid **840** and the gasket **841**, are substantially similar to those of the first and fourth embodiments described above. The description of certain similarities between the embodiments may be omitted herein for the sake of brevity and convenience, and, therefore, is not limiting.

One distinguishing feature of the ninth embodiment is that the upper end of the container **830** defines a generally laterally outwardly projecting lip **830a** (FIGS. **19a-c**), adapted to rest atop the housing rim **812c** when the container **830** is placed within the cavity of the housing **812**. As shown, the lip **830a** extends past the housing rim **812c**, thereby defining a shoulder that a user may engage to lift and remove the container **830** from the cavity of the housing **812**. In the illustrated embodiment, the container **830** also includes a rim **830b** extending generally perpendicularly upwardly from the lip **830a**. The lid **840** is placed on, or adjacent to, the container rim **830b**. In the illustrated embodiment, as shown in FIGS. **19a-c**, the container lip **830a** and the container rim **830b** define a pocket, wherein the lip **830a** acts as a ledge on which the lid **840** rests and the rim **830b** generally encases the lid **840** to secure the position of the lid **840** atop the container and mitigate accidental slippage of the lid **840** off of the container **830**.

Another distinguishing feature of the ninth embodiment is that the kitchen appliance **810** includes at least one handle assembly **816** (two handle assemblies **816** as shown in FIGS. **18**), comprising a handle anchor **836** and a handle **838** pivotably attached therewith. The handle anchor **836** is securely mounted to the side wall **812b** of the housing **812**, and extends outwardly, and upwardly. As shown, the handle anchor **836** is fixed to the exterior surface **813a** of the side wall **812b** of the housing **812**. In the illustrated embodiment, the handle anchor **836** is fastened to the exterior surface **813a** with, for example, a threaded screw. However, as should be understood by those of ordinary skill in the pertinent art, the handle anchor **836** may be fixed to the exterior surface **813a** in any of numerous different ways known in the art. In the illustrated embodiment, the handle anchor **836** extends upwardly to approximately the same elevation as the container rim **830b**, when the container **830** is placed within the housing **812**. The handle anchor **836** defines a handle catch **836a** at the upper end thereof, having an arcuate surface **836b** defining a radius R , extending laterally outwardly from the handle anchor **836** and a generally planar top surface **836c**. A pivot point **844**, such as a pin or dowel, attaches the handle anchor **836** with the handle **838**. In the illustrated embodiment, the pivot point **844** is located radially inwardly of the catch **836a**, at approximately the same elevation as the upper extent of the container rim **830b**.

The handle **838** is pivotable about the pivot point **844** between a disengaged position, as shown in FIG. **18** on the right and FIG. **19a**, and an engaged position, as shown in FIG. **18** on the left and FIG. **19c**. In the disengaged position, each handle **838** extends generally perpendicularly to the base

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812a of the housing 812. In the disengaged position, at least a portion of the handle 838, and preferably the entire handle 838 as shown, is spaced-apart from the lid 840 to permit the lid 840 to be removed from the container 830. In the engaged position, each handle 838 extends generally parallel to the base 812a. In the engaged position, at least a portion of the handle 838 contacts the exterior surface 840a of the lid 840 to retain the lid 840 in sealing engagement with the container lip 830a. The handle 838 imparts a downward force onto the lid 840 and at least partially compresses the gasket 841 between the lid 840 and the container lip 830a for inhibiting leakage of the contents from the interior of the container 830.

As shown in FIGS. 19a-19c, the handle 838 includes an upper surface 838a and a depending skirt wall 838b, defining a generally hollow interior cavity therein. The handle 838 further includes a locking mechanism 870. The locking mechanism 870 locks the handle 838 in the engaged position once the handle 838 is moved into the engaged position. That is, once the handle 838 is moved into the engaged position (FIG. 19c), the handle 838 automatically remains in contact with the exterior surface 840a of the lid 840 to retain the lid 840 in sealing engagement with the container lip 830a without requiring a user to maintain the handle in the engaged position. The locking mechanism 870 includes a lock 870a, a biasing member 870b, and a lock release 870c. The lock 870a and biasing member 870b are located within the cavity of the handle 838. The biasing member 870b abuts the inside surface of the laterally outer side of the skirt wall 838b at one end and abuts the lock 870a at the opposing end. As should be understood by those of ordinary skill in the pertinent art, the biasing member 870b may be any type of member capable of performing the function of the biasing member as described herein, such as, for example, without limitation, a coil spring.

The upper surface 838a of the handle 838 defines a slot 838c therein, through which projects the lock release 870c into engagement with the lock 870a. In the illustrated embodiment, the lock release 870c is generally T-shaped. The axial portion of the T-shape projects through, and is slidable with respect to, the slot 838c and into engagement with the lock 870a, and the lateral portion of the T-shape extends substantially perpendicularly to the axial portion and slidably engages the upper surface 838a. The lateral portion is slideable along the slot 838c toward the housing 812 and away from the housing 812. In the illustrated embodiment, the upper surface of the lateral portion defines a gripping surface 870d, such as, for example, without limitation, a bumpy surface, for engagement by a user.

When in the disengaged position (FIG. 19a), the arcuate surface 836b of the catch 836a of the handle anchor 836 acts as a stop surface for lock 870a. As the handle 838 pivots upwardly and inwardly toward the lid 840 (FIG. 19b), from the disengaged position toward the engaged position, the lock 870a slides along the arcuate surface 836b. When the handle 838 reaches the engaged position (FIG. 19c), the lock 870a clears the arcuate surface 836b of the catch 836a and is positioned on even level with the generally planar top surface 836c of the catch 836a. The biasing member 870b is then able to bias the lock 870a to slide along the generally planar top surface 836c from a first, unlocked position into a second, locked position. In the second, locked position, the lock 870a is obstructed from pivoting downwardly around the catch 836a because of the interlock between the lock 870a and the generally planar top surface 836c, thereby preventing the handle 838 from freely pivoting away from the lid 840 and back into the disengaged position. In embodiments where at least a portion of the lid 840 is located slightly above the upper extent of the container rim 830, at least an inner end of the

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handle 838 imparts a downward force on the lid 840 into order to arrive at the engaged position. The downward force applied by the handle 838 at least partially compresses the gasket 841, thereby creating at least a generally liquid-tight seal between the lid 840 and the container 830. In some embodiments, the skirt wall 838b proximate the lid includes a cut-out or catch (not shown) therein to accommodate and/or receive at least a portion of the lid 840 in the engaged position of the handles 838.

To unlock the handle 838, the lock release 870c is manually slid, e.g., by a user, laterally along the slot 838c, in a direction away from the housing 812 and against the bias of the biasing member 870b. The lock release 870c slides the lock 870a from the second, locked position to the first, unlocked position, wherein the lock 870a clears the radius R of the arcuate surface 836b of the catch 836a. Once the lock 870a clears the radius R of the arcuate surface 836b, and therefore the catch 836a no longer obstructs the pivoting motion of the lock 870a, the handle 838 may pivot back into the disengaged position.

In use, both handles 838 are generally positioned in, or moved to, the disengaged position to allow the lid 840 to be placed on the container 830. To pick up and/or transport the kitchen appliance 810, the handles 838 are manually moved into their respective engaged positions, to lock and/or seal the lid 840 onto the container 830 and allow the kitchen appliance 810 to be lifted and/or transported. Additionally, once the handles 838 are in the engaged position, the respective biasing members 870b automatically bias the respective locks 870a from their respective first, unlocked positions (FIGS. 19a-b) into their respective second, locked positions (FIG. 19c), so that a user may let go of the handles 838, e.g., during transport, and the handles 838 remain in their respective engaged positions, thereby inhibiting leakage of the contents within the container 830. Upon arriving at the destination for serving, the respective lock releases 870c may be manually slid laterally outwardly, as described above, to move the respective locks 870a from their respective second, locked positions to their respective first, unlocked position, so that the handles 838 may be pivoted back down to their respective disengaged positions, allowing removal of the lid 840.

It will be appreciated by those skilled in the art that changes could be made to the embodiments described above without departing from the broad inventive concept thereof. It is understood, therefore, that this disclosure is not limited to the particular embodiments disclosed, but it is intended to cover modifications within the spirit and scope of the present disclosure as defined by the appended claims.

We claim:

1. A kitchen appliance comprising:

- a housing having a base adapted to rest on a support surface and a side wall extending upwardly therefrom, the side wall having an exterior surface and an opposing interior surface, at least portions of the interior surface of the side wall and the base defining a cavity within the housing, the housing having a housing rim at a first, free edge of the side wall defining an opening to the cavity;
- a heating or cooling element disposed within the housing proximate the cavity to heat or cool the cavity;
- a container sized and shaped to fit within the cavity of the housing, having a generally hollow interior adapted to retain contents therein and a container rim adjacent an upper end thereof defining an opening for accessing the interior thereof;
- a lid sized and shaped to at least partially cover the opening of the container when placed on the container, the lid

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having an exterior surface and an opposing interior surface facing the interior of the container when the lid is placed on the container;

at least one handle assembly engageable by a user for carrying the kitchen appliance, comprising a handle anchor positioned on said housing and a handle pivotably connected thereto, wherein said handle is pivotable between an engaged position in which at least a portion of the handle contacts the lid to retain the lid in sealing engagement with the container rim for inhibiting leakage of the contents from the interior of the container, and a disengaged position in which the portion of the handle is spaced-apart from the lid to permit the lid to be removed from the container rim, and wherein the handle includes a locking mechanism for locking the handle in the engaged position, the locking mechanism comprises a locking member, a biasing member adapted to bias the locking member from a first, unlocked position to a second, locked position, and a lock release adapted to move the locking member from the second, locked position to the first, unlocked position; and

the handle further comprises an upper generally planar surface having a slot therein and a depending skirt wall defining a generally hollow interior cavity therein, wherein the locking and biasing members are located with the interior cavity of the handle and the lock release extends through the slot into engagement with the locking member.

2. A kitchen appliance as defined in claim 1, wherein the handle anchor is securely mounted to the exterior surface of the side wall of the housing, and extends upwardly and outwardly therefrom, and the handle pivotably connected to the handle anchor is engageable by a user.

3. A kitchen appliance as defined in claim 1, wherein the locking member is movable from the first, unlocked position to the second, locked position under a biasing force of the biasing member, and the locking member is movable from the second, locked position to the first, unlocked position under a manual force of a user greater than the biasing force of the biasing member.

4. A kitchen appliance as defined in claim 1, wherein the lock release is generally T-shaped, comprising an axial portion extending through the slot and coupled with the locking member, and a lateral upper portion, extending substantially perpendicularly to the axial portion, and being slideable along the upper generally planar surface.

5. A kitchen appliance as defined in claim 1, wherein the handle anchor comprises a handle anchor catch defining an upper end thereof, having a generally planar top surface and an arcuate side surface defining a radius facing away from the exterior surface of the side wall of the housing.

6. A kitchen appliance as defined in claim 5, wherein the handle anchor catch further defines a pivot axis about which the handle is pivotable relative to the handle anchor.

7. A kitchen appliance as defined in claim 5, wherein in the disengaged position of the handle, the arcuate surface of the handle catch defines a stop surface abutting the locking member, stopping the biasing member from moving the locking member from the first, unlocked position to the second, locked position.

8. A kitchen appliance as defined in claim 7, wherein the locking member is slidable along the arcuate surface of the handle catch between the disengaged position of the handle and the first, unlocked position of the locking member in the engaged position of the handle.

9. A kitchen appliance as defined in claim 7, wherein in the engaged position of the handle, the locking member clears the

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arcuate surface of the handle catch and is positioned on substantially even level with the generally planar top surface of the handle anchor catch, such that the arcuate surface no longer stops the biasing member from moving the locking member from the first, unlocked position into the second, locked position.

10. A kitchen appliance as defined in claim 5, wherein in the engaged position of the handle, the locking member is slidable along the generally planar top surface of the handle anchor catch from the first, unlocked position to the second, locked position.

11. A kitchen appliance as defined in claim 10, wherein in the first, unlocked position of the locking member, the locking member clears the radius of the handle catch arcuate surface, such that the handle is pivotable from the engaged position to the disengaged position.

12. A kitchen appliance as defined in claim 10, wherein in the second, locked position of the locking member, the handle anchor catch obstructs pivoting of the locking member about the catch, such that the handle is prevented from freely pivoting from the engaged position to the disengaged position.

13. A kitchen appliance as defined in claim 1, further comprising a compressible gasket extending around one of an outer edge of the lid and the container rim for sealing engagement with the other of the container rim and the outer edge of the lid, the gasket being at least partially compressed when the at least one handle assembly is in the engaged position.

14. A kitchen appliance as defined in claim 1, wherein in the disengaged position of the handle, at least a portion of the handle extends generally perpendicularly to the base, and wherein in the engaged position the handle extends generally parallel to the base.

15. A kitchen appliance as defined in claim 1, wherein the container further comprises a generally laterally outwardly projecting container lip adjacent the upper end thereof, adapted to rest atop, and extend past, the housing rim when the container is placed within the cavity of the housing, thereby defining a shoulder engageable by a user for handling the container.

16. A kitchen appliance as defined in claim 15, wherein the container lip is adapted to support the lid when placed on the container, and the container rim extends upwardly from the container lip and generally encases the lid to secure the position thereof atop the container and prevent accident slippage of the lid from atop the container.

17. A kitchen appliance comprising:

a housing having a base adapted to rest on a support surface and a side wall extending upwardly therefrom, the side wall having an exterior surface and an opposing interior surface, at least portions of the interior surface of the side wall and the base defining a cavity within the housing, the housing having a housing rim at a first, free edge of the side wall defining an opening to the cavity;

a heating or cooling element disposed within the housing proximate the cavity to heat or cool the cavity;

a container sized and shaped to fit within the cavity of the housing, having a generally hollow interior adapted to retain contents therein and a container rim adjacent an upper end thereof defining an opening for accessing the interior thereof;

a lid sized and shaped to at least partially cover the opening of the container when placed on the container, the lid having an exterior surface and an opposing interior surface facing the interior of the container when the lid is placed on the container; and

at least one handle assembly engageable by a user for carrying the kitchen appliance comprising a handle

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anchor positioned on said housing and a handle pivotably connected thereto, wherein said handle is pivotable between an engaged position in which at least a portion of the handle contacts the lid to retain the lid in sealing engagement with the container rim for inhibiting leakage of the contents from the interior of the container, and a disengaged position in which the portion of the handle is spaced-apart from the lid to permit the lid to be removed from the container rim;

wherein the handle anchor includes a handle anchor catch defining an upper end thereof, having a generally planar top surface and an arcuate side surface defining a radius facing away from the exterior surface of the side wall of the housing and the handle includes a locking mechanism for locking the handle in the engaged position, said locking mechanism comprising a biasing member adapted to bias the locking member from a first, unlocked position to a second, locked position when the handle is in the engaged position, and a lock release adapted to move the locking member from the second, locked position to the first, unlocked position, and wherein:

in the disengaged position of the handle, the arcuate surface of the handle catch defines a stop surface abutting the locking member, stopping the biasing member from moving the locking member from the first, unlocked position to the second, locked position,

in the engaged position, the locking member clears the arcuate surface of the handle catch, and the locking member is positioned on substantially even level with, and is slidable along, the generally planar top surface of the handle anchor catch, such that the arcuate surface no longer stops the biasing member from moving the locking member from the first, unlocked position to the second, locked position of the handle,

in the first, unlocked position of the locking member, the locking member clears the radius of the handle catch arcuate surface, such that the handle is pivotable from the engaged position to the disengaged position, and

in the second, locked position of the locking member, the handle anchor catch obstructs pivoting of the locking member about the catch, such that the handle is prevented from freely pivoting from the engaged position to the disengaged position.

18. A kitchen appliance as defined in claim 17, wherein the locking member is movable from the first, unlocked position to the second, locked position under a biasing force of the biasing member, and the locking member is movable from the

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second, locked position to the first, unlocked position under a manual force of a user greater than the biasing force of the biasing member.

19. A kitchen appliance comprising:

a housing having a base adapted to rest on a support surface and a side wall extending upwardly therefrom, the side wall having an exterior surface and an opposing interior surface, at least portions of the interior surface of the side wall and the base defining a cavity within the housing, the housing having a housing rim at a first, free edge of the side wall defining an opening to the cavity;

a heating or cooling element disposed within the housing proximate the cavity to heat or cool the cavity;

a container sized and shaped to fit within the cavity of the housing, having a generally hollow interior adapted to retain contents therein and a container rim adjacent an upper end thereof defining an opening for accessing the interior thereof;

a lid sized and shaped to at least partially cover the opening of the container when placed on the container, the lid having an exterior surface and an opposing interior surface facing the interior of the container when the lid is placed on the container;

at least one handle assembly engageable by a user for carrying the kitchen appliance comprising a handle anchor positioned on said housing and a handle pivotably connected thereto, the handle anchor comprising a handle anchor catch defining an upper end thereof having a generally planar top surface and arcuate side surface defining a radius facing away from the exterior surface of the side wall of the housing; and

wherein said handle is pivotable between an engaged position in which at least a portion of the handle contacts the lid to retain the lid in sealing engagement with the container rim for inhibiting leakage of the contents from the interior of the container, and a disengaged position in which the portion of the handle is spaced-apart from the lid to permit the lid to be removed from the container rim, and wherein the handle includes a locking mechanism for locking the handle in the engaged position, the locking mechanism comprises a locking member, a biasing member adapted to bias the locking member from a first, unlocked position to a second, locked position, and a lock release adapted to move the locking member from the second, locked position to the first, unlocked position.

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